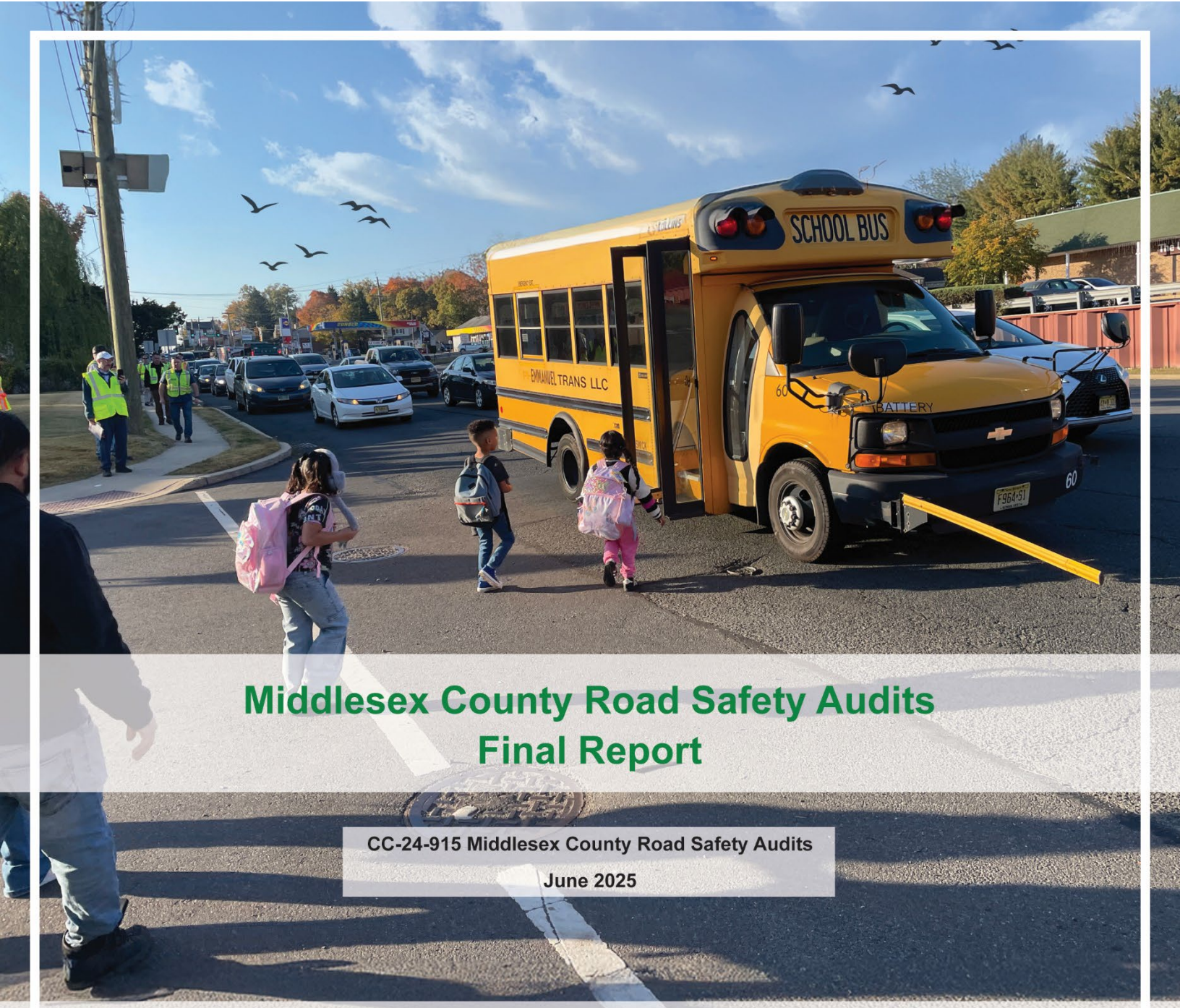


Middlesex County Road Safety Audits
Final Report

CC-24-915 Middlesex County Road Safety Audits

June 2025

Prepared for:
Middlesex County Office of Planning

MIDDLESEX COUNTY • NJ

North Jersey Transportation Planning Authority

NJTPA

Prepared by:
Stantec Consulting Services Inc.

Stantec

Michael Baker International, Inc.

Michael Baker INTERNATIONAL

Michael Baker International, Inc.

MPA MERCER PLANNING ASSOCIATES

Disclaimers

This report, and all appended Road Safety Audit reports and study materials, have been prepared as part of the North Jersey Transportation Planning Authority (NJTPA) Subregional Studies Program with funding by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The NJTPA is solely responsible for its content.

Protection of Discovery and Admission into Evidence

23 U.S.C. 407 states "*Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.*

Acknowledgements

Study Team

County Board of Commissioners

Ronald G. Rios, Director

Shanti Narra, Deputy Director

Claribel A. Azcona-Barber, Commissioner

Charles Kenny, Commissioner

Leslie Koppel, Commissioner

Chanelle Scott McCullum, Commissioner

Charles E. Tomaro, Commissioner

County Planning Board

Jason Friedman, Chairperson

Ronald G. Rios, Director of the BOCC

Charles Kenny, County Commissioner

Ronald Sendner, PE, County Engineer

Hemant Patel, Vice Chairperson

Michael Kolbasowski

Stephany Kim-Chohan

Shahrukh Jovindah

Saketa Chadalavada

Gail Lalla, Alternate Member

Joseph Johnson, Alternate Member

County Office of Planning

Vijayant Rajvanshi, AICP, Planning Director

Astha Negi, Project Manager, Senior Planner

Michael Dannemiller, PE, Supervising Engineer

Andrew Lappitt, AICP, PP, Principal Planner

Denise Nickel, AICP, PP, Principal Planner

Emily Link, Office Services Manager

County Office of Engineering

Ronald Sendner, PE, County Engineer

George Fallat, PE, Supervising Engineer

Other County Offices

Khalid Anjum, Transportation Department Head

John Carroll, Director of Public/Government Affairs (PGA)

Steve Dalina, PGA

NJTPA

Lois Goldman, Director, Long Range Transportation Planning

Andrew Kaplan, PE, PTOE, Manager of Planning for Operations and Technology

William Long, Principal Planner

Patricia Newton, PE, Principal Planner

Stantec Consulting Services Inc.

Adam Catherine, PE, PTOE, Principal-In-Charge

Matthew Maher, PE, PTOE, RSP_{2I}, Project Mgr.

Kush Bhagat, PE, RSP_1, IMSA II, Traffic Engineer

Joseph Amorosa, PE, PTOE, Traffic Engineer

Michael Baker International

Anthony Durante, AICP, RSP_1, Sub PM

Peter Kremer, AICP, PP, Senior Associate

Prateeksha Sehgal, AICP, Transpo. Planner

Marjoly DeLeon, AICP, Planner

Mercer Planning Associates

Courtenay Mercer, AICP, PP, Sub PM

Reya Singhi, Associate Planner

Technical Advisory Committee & Local Officials

AARP

Sarah Mack, Director of Outreach/Engagement

Michelle Murphy, NJ Leadership Volunteer

Federal Highway Administration

Alan Huff, Safety Specialist

Keep Middlesex Moving

Brian Tobin, Executive Director

Arlene Holt, Marketing & Outreach Manager

Christopher Gonda, Program Manager

NJ Bike & Walk Coalition

Debra Kagan, Executive Director

NJ TRANSIT

Elmira Buongiorno, Director of Bus Safety

Farzana Ahmed, Program Specialist 4

Leah Katz, Director of Programmatic Planning

Michael Swan, Principal Facilities Planner

New Jersey Department of Transportation

Meredith Hammond, OCCR

John Fam, Executive Manager, DTE

Brendan Rahl, Supervising Highway Eng., DTE

Nicholas Chiavoni, Senior Traffic Eng., DTE

Port Authority of NY & NJ

Ahsan Ali, Traffic Engineer

Tri-State Transportation Campaign

Corey Hannigan, Active Transportation PM

Vorhees Transportation Center

Leigh Ann Von Hagen, Managing Director

Sean Meehan, Research Project Manager

East Brunswick Township

Mark Kataryniak, Manager of Engineering Srvs.

Joseph Criscuolo, Township Administrator

Keith Kipp, Director of Planning/Engineering

Edison Township

Sonia Alves-Viveiros, Business Administrator

Hank Bignell, Director of Planning/Engineering

Milltown Borough

Ralph Jasionowski, Public Works Director

Frederick Carr, Business Administrator

Monica Orlando, Municipal Clerk

City of Perth Amboy

Pascal Medina, Traffic Lt.

Michael Greene, Business Administrator

Tashilee Vazquez, Director, Econ./Comm. Dev.

Old Bridge Township

Anahita Feltz, Business Administrator

Veena Sawant, Township Planner

Piscataway Township

Joseph Herrera, Supervisor of Engineering

Timothy Dacey, Business Administrator

Dana Korbman, Chief of Staff

Sayreville Borough

Zak Schlichte, Deputy Business Administrator

Glenn Skarzynski, Business Administrator

Jessica Morelos, Municipal Clerk

Beth Magnani, Planning Board Secretary

South Plainfield Borough

Glenn Cullen, Administrator – CFO

Stephanie Merola, Planning/Zoning Secretary

Table of Contents

1 Executive Summary 1
1.1 Motivation for Study 3
1.2 Outreach 3
1.3 Larger Recommendations by Corridor 4
1.3.1 Ryders Lane in East Brunswick Township and Millstone Borough 5
1.3.2 Plainfield Avenue in Edison Township 5
1.3.3 Amboy Avenue in City of Perth Amboy 5
1.3.4 Ernston/Washington Roads in Old Bridge Twp and Sayreville Boro 6
1.3.5 Stelton Road in Piscataway Township and South Plainfield Borough 6
1.4 Next Steps 7
2 Introduction 8
2.1 Purpose & Need of Study 8
3 Overview of RSA Process 10
4 Corridor Selection Process 12
4.1 Methodology 12
4.2 Final Rankings 14
5 Public & Stakeholder Input 16
5.1 Public Engagement Plan 16
5.2 Communications 16
5.3 Technical Advisory Committee 17
5.3.1 TAC Members 17
5.3.2 TAC Meeting #1 18
5.3.3 TAC Meeting #2 19
5.3.4 TAC Meeting #3 20
5.4 Local Officials Meetings 20
5.4.1 Local Officials Meeting: Pre-RSA 21
5.4.2 Local Officials Meetings: Post-RSA 23
5.5 Public Information Sessions 25
5.5.1 What We Heard 26
6 Data Collection 28
6.1 Land Use and Corridor Context 29
6.1.1 Ryders Lane in East Brunswick Township and Milltown Borough 29
6.1.2 Plainfield Avenue in Edison Township 30
6.1.3 Amboy Avenue in City of Perth Amboy 31
6.1.4 Ernston Road/Washington Road in Old Bridge Township and Sayreville Borough 32
6.1.5 Stelton Road in Piscataway Township and South Plainfield Borough 33
6.2 Crash and Near Miss Data 34
6.2.1 Ryders Lane 35
6.2.2 Plainfield Avenue 37
6.2.3 Amboy Avenue 39

6.2.4 Ernston Road/Washington Road 41
6.2.5 Stelton Road 43
6.3 Volume Data 45
6.4 Multimodal Data 46
6.5 Demographic Assessment 46
7 Road Safety Audits – In-Field Reviews 47
7.1 Pictorial Observations 48
7.1.1 Ryders Lane 48
7.1.2 Plainfield Avenue 50
7.1.3 Amboy Avenue 51
7.1.4 Ernston Road/Washington Road 53
7.1.5 Stelton Road 54
7.2 Summary of Larger Observations by Corridor 55
7.2.1 Ryders Lane in East Brunswick Township and Millstone Borough 55
7.2.2 Plainfield Avenue in Edison Township 55
7.2.3 Amboy Avenue in City of Perth Amboy 56
7.2.4 Ernston/Washington Roads in Old Bridge Twp and Sayreville Boro 56
7.2.5 Stelton Road in Piscataway Township and South Plainfield Borough 57
8 Literature Review & Study Recommendations 58
8.1 County Studies Reviewed 58
8.1.1 Vision Zero Action Plan (2022) 58
8.1.2 Southern Middlesex County Freight Movement Study (2023) 59
8.1.3 Middlesex County Route 529 Corridor Study (2019) 59
8.2 National Publications Reviewed 60
8.3 Recommendations by Corridor 60
8.3.1 Ryders Lane in East Brunswick Township and Millstone Borough 61
8.3.2 Plainfield Avenue in Edison Township 63
8.3.3 Amboy Avenue in City of Perth Amboy 65
8.3.4 Ernston/Washington Roads in Old Bridge Twp and Sayreville Boro 67
8.3.5 Stelton Road in Piscataway Township and South Plainfield Borough 69
9 Next Steps 71

List of Tables

Table 1 - Short List of 10 Candidate Corridors 13
Table 2 - Ranked Corridors for RSAs in Middlesex County 15
Table 3 - Local Officials Meetings Dates and Attendance 21
Table 4 - CR 617 Ryders Lane Study Area Highest Overrepresented and Observed Crash Types 35
Table 5 - CR 617 Ryders Lane Ryders Lane and Washington Avenue Near Misses by Mode and PET..... 36
Table 6 - CR 529 Plainfield Avenue Study Area Highest Overrepresented and Observed Crash Types 38
Table 7 - CR 529 Plainfield Avenue and Greenwood Avenue Near Misses by Mode and PET..... 39
Table 8 - CR 653 Amboy Avenue Study Area Highest Overrepresented and Observed Crash Types..... 40
Table 9 - CR 653 Amboy Avenue and Waltrous Avenue/Lawrence Street/NJ 440 Off-Ramp Near Misses by Mode and PET..... 41
Table 10 - CR 673 Ernston Road and CR 535 Washington Road Study Area Highest Overrepresented and Observed Crash Types 42
Table 11 - CR 673 Ernston Road and CR 535 Washington Road Near Misses by Mode and PET..... 43
Table 12 - CR 529 Stelton Road Study Area Highest Overrepresented and Observed Crash Types 44
Table 13 - CR 529 Stelton Road and New Brunswick Avenue Near Misses by Mode and PET 45
Table 14 - Ryders Lane Observations 48
Table 15 - Plainfield Avenue Observations 50
Table 16 - Amboy Avenue Observations 51
Table 17 - Ernston Road/Washington Road Observations 53
Table 18 - Stelton Road Observations 54
Table 19 - Funding Program Suitability by Corridor 72

List of Figures

Figure 1 - Map of RSA Corridors in Middlesex County 2
Figure 2 - FHWA Eight Step RSA Process 10
Figure 3 - Map of Short List Candidate Corridors in Middlesex County 14
Figure 4 - Map of RSA Corridors in Middlesex County 15
Figure 5 - RSA Social Media Image 16
Figure 6 - TAC Meeting #1 Poll: Corridor Prioritization Criteria Ranking 18
Figure 7 - TAC Meeting #1 Poll: Top Corridors to Conduct an RSA 19
Figure 8 - Public Information Sessions: Perception of Safety by Travel Mode 26
Figure 9 - Public Information Sessions: Corridor Safety Concerns (Design) 27
Figure 10 - Public Information Sessions: Corridor Safety Concerns (Behaviors) 27
Figure 11 - CR 617 Ryders Lane Project Location and Land Use Map 29
Figure 12 - CR 529 Plainfield Avenue Project Location and Land Use Map 30
Figure 13 - CR 653 Amboy Avenue Project Location and Land Use Map 31
Figure 14 - CR 673 Ernston Road and CR 535 Washington Road Project Location and Land Use Map 32
Figure 15 - CR 529 Stelton Road Project Location and Land Use Map 33
Figure 16 - CR 617 Ryders Lane Near Miss Example 36
Figure 17 - CR 529 Plainfield Avenue Near Miss Example 38
Figure 18 - CR 653 Amboy Avenue Near Miss Example 40
Figure 19 - CR 673 Ernston Road and CR 535 Washington Road Near Miss Example 42
Figure 20 - CR 529 Stelton Road Near Miss Example 44
Figure 21 - Photo of RSA Team 47
Figure 22 - County VZ Study 58
Figure 23 - County Freight Study 59
Figure 24 - CR 529 Study 59
Figure 25 - Ryders Lane Safety Recommendations at Tices Lane (N.T.S.) 62
Figure 26 - Plainfield Avenue Safety Recommendations at Greenwood Avenue/Route 27 (N.T.S.) 64
Figure 27 - Amboy Avenue Safety Recommendations at Route 440 Interchange (N.T.S.) 66
Figure 28 - Safety Recommendations at Intersection of Ernston Road & Washington Road (N.T.S.) 68
Figure 29 - Stelton Road Safety Recommendations at New Brunswick Avenue (N.T.S.) 70

List of Appendices

Appendix A **Road Safety Audit Reports**
Appendix B **Road Safety Audits Corridor Prioritization Memorandum**
Appendix C **Public Engagement Results and Exhibits**

1 Executive Summary

Middlesex County's Vision Zero Action Plan (Middlesex County Adopted Vision Zero Action Plan) identified a process to enhance safety for all roadway users along the County's most frequent crash corridors. To ensure that concepts developed were inclusive and target specific, the study team screened the Middlesex County High Injury Network and the NJTPA Network Screening List (NSL) for crash and severity history and then identified the corridors where Middlesex County was not already taking action to enhance safety. This effort was combined with a demographic assessment and stakeholder outreach which led Middlesex County to the five corridors investigated in this study.

The Middlesex County Road Safety Audits study documented the existing conditions of five Middlesex County (County) roadway corridors, including land use context, roadway cross-sections, motor vehicle volumes and speeds, transit service, demographic assessment of the surrounding communities, and safety analysis based on crash reports and near-miss video analytics. The existing conditions provided context for the Road Safety Audits (RSAs), which developed recommendations to improve safety for all roadway users, whether walking, biking, driving, or traveling by transit. The County conducted the study as part of the North Jersey Transportation Planning Authority's (NJTPA's) subregional studies program. The following five locations underwent RSAs, as depicted in **Figure 1**:

1. Ryders Lane (CR 617) in East Brunswick Township/Millstone Borough, MP 4.90-5.90
2. Plainfield Avenue (CR 529) in Edison Township, MP 0.10-1.10
3. Amboy Avenue (CR 653) in City of Perth Amboy, MP 0.08-1.08
4. Ernston Road (CR 636) in Old Bridge Township/Sayreville Borough, MP 0.00-1.00
    a. Includes Washington Road (CR 535) at the northern end, MP 30.27-30.50
5. Stelton Road (CR 529) in Piscataway Township/South Plainfield Borough, MP 4.17-5.17

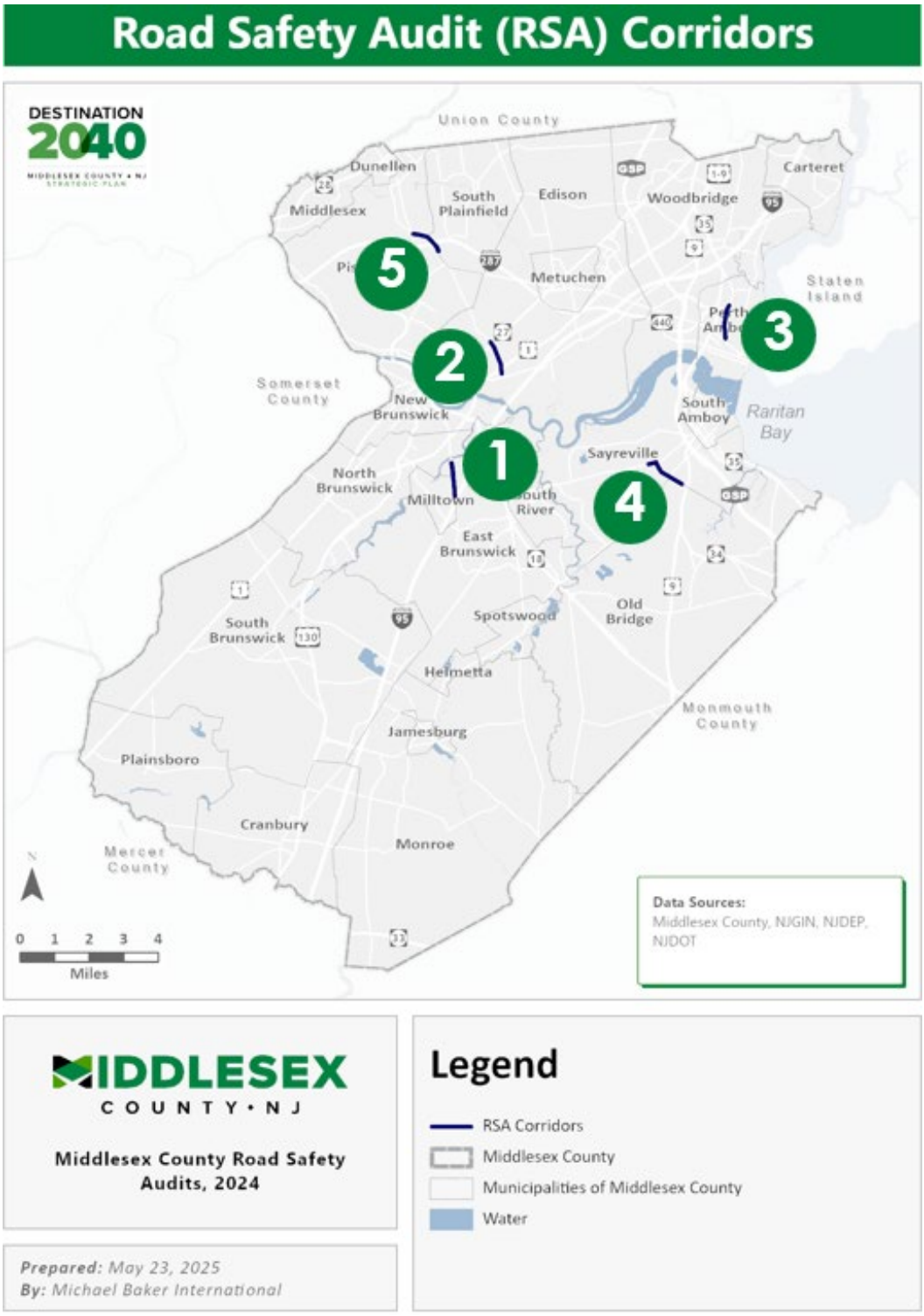


Figure 1 - Map of RSA Corridors in Middlesex County

1.1 Motivation for Study

Since 2022, Middlesex County has prioritized its Vision Zero goal of eliminating all motor vehicle fatalities and severe injuries by 2040. This ambitious commitment is rooted in the adoption of the Vision Zero pledge and Action Plan and reflects the County's unwavering belief that traffic deaths and serious injuries are preventable. Guided by the Federal Highway Administration's Safe System Approach, the County is advancing impactful actions recommended in the Middlesex County Vision Zero Action Plan across five key areas: *Safe Roads, Safe Speeds, Safe Road Users, Safe Vehicles, and Post-Crash Care*.

The Middlesex County RSAs study is born out of a *Safe Roads* action item from the Middlesex County Vision Zero Action Plan[1]. Safe Roads means designing roadway environments to mitigate human mistakes and account for injury tolerances, encouraging safer behaviors, and facilitating safe travel by the most vulnerable roadway users[2]. The action plan commissioned the County to conduct RSAs on High Injury Network (HIN) corridors as a critical step toward informing and prioritizing future safety improvements. In alignment with this recommendation, the County applied to the North Jersey Transportation Planning Authority (NJTPA) for funding through the Subregional Studies Program (SSP) and was awarded support to conduct RSAs on five key corridors within the County.

1.2 Outreach

A Technical Advisory Committee (TAC) was identified for this study, which included County, regional, and state government staff, as well as representatives from advocacy organizations and other community-based organizations with a vested interest in improving roadway safety across Middlesex County. The TAC met virtually three times throughout the course of the study to provide guidance on corridor selection, data, and draft recommendations. To supplement

[1] https://www.middlesexcountynj.gov/home/showpublisheddocument/4836/637987645910170000
[2] https://www.transportation.gov/safe-system-approach/safer-roads



the study with more local operations and maintenance knowledge, two rounds of meetings (ten in total, two for each corridor) were held with local officials (including both the pertinent municipalities and state agencies) to provide a pre-orientation to the RSAs, to obtain consensus on RSA recommendations. A meeting was also held with the New Jersey Department of Transportation's (NJDOT's) Division of Traffic Engineering (DTE) to obtain their input on recommendations that would impact State infrastructure.

Finally, the County and project team led a multi-pronged effort to solicit community feedback. This included development of a project webpage, flyers, social media posts, and hosting of five Public Information Sessions (public meetings) in the RSA communities. The sessions featured activities that invited participants to share their travel experiences, including perceptions of safety, roadway design and user behavior concerns on the corridor, and reactions to the project recommendations. Participants overwhelmingly felt unsafe walking, biking, and driving along the five corridors. The top design concerns included "inadequate pedestrian accommodations" and "dangerous or confusing intersections." The top user behavior concerns included "too much traffic" and "illegal maneuvers." These prevailing perceptions of corridor safety performance were affirmed through video clips of near-miss incidents at high-crash intersections that were shared with outreach participants. Feedback from questions posed on various boards regarding corridor-wide and intersection-specific issues helped to affirm the safety issue findings shared for each corridor. These Public Information Sessions also provided an opportunity to educate attendees on the many crash countermeasure recommendations from the RSAs and how they work to reduce fatal and serious injury crashes.

1.3 Larger Recommendations by Corridor

The inclusive stakeholder group audited the five corridors for roadway safety and then built consensus for a wide range of recommendations that the project team refined and presented in this report. Addressing both the overall and intersection/segment-specific needs of the corridor, implementation matrices were developed outlining the improvement and are



summarized below. Additional details on the recommendations can be found in Chapter 6, Findings and Recommendations, and in each RSA report (**Appendix A**).

1.3.1 Ryders Lane in East Brunswick Township and Millstone Borough

Ryders Lane is a vehicle-centric corridor with relatively long block lengths and wide cross-sections. Several issues were observed during the audit, including, but not limited to:

- Sidewalk gaps and limited safe pedestrian crossing locations;
- Reduced signage and striping visibility; and,
- High travel speeds.

Corridor-wide recommendations include, but are not limited to:

- Access management strategies, such as consolidation of driveways;
- Targeted enforcement and traffic calming strategies, such as speed feedback signing and narrowed lanes; and,
- Improved sidewalk coverage for vulnerable roadway users.

1.3.2 Plainfield Avenue in Edison Township

Plainfield Avenue is a largely residential area with relatively low travel speeds. Several issues were observed during the audit, including, but not limited to:

- Sidewalk obstructions and lack of delineation between driveways and sidewalks;
- Limited safe pedestrian crossing locations and long pedestrian crossing distances; and,
- Lack of bicycle facilities.

Corridor-wide recommendations include, but are not limited to:

- Striping of edge lines to induce slower corridor speeds;
- Investigation of bike lane feasibility along the corridor; and,
- Access management strategies, such as consolidation of driveways.

1.3.3 Amboy Avenue in City of Perth Amboy

Amboy Avenue is located within a central business district, with store fronts close to the street, the presence of on-street parking, and amenities (street furniture, bicycle racks, trash cans, etc.). Several issues were observed during the audit, including, but not limited to:



- Sidewalk obstructions and limited marked pedestrian crossings;
- Non-compliant signage and lack of stop signs on side streets; and,
- Long pedestrian crossings without pedestrian signals.

Corridor-wide recommendations include, but are not limited to:

- Daylighting at intersections to preclude parked vehicles from blocking sightlines;
- Investigating the feasibility of bike lanes or sharrows; and,
- Implementing pedestrian-scale lighting to mitigate overrepresentation of nighttime crashes.

1.3.4 Ernston/Washington Roads in Old Bridge Twp and Sayreville Boro

The Ernston Road and Washington Road corridors are close to several schools, including Sayreville High School and Samsel Upper Elementary School located on the north and south ends of the corridor, respectively. Several issues were observed during the audit, including, but not limited to:

- Poor sidewalk conditions and limited marked pedestrian crossings;
- Wide driveway aprons and driveways close to intersections; and,
- High travel speeds.

Corridor-wide recommendations include, but are not limited to:

- Investigation of bike lane feasibility along the corridor;
- Striping of edge lines to induce slower corridor speeds; and,
- Improvement of sidewalk maintenance and provision of sidewalk buffer.

1.3.5 Stelton Road in Piscataway Township and South Plainfield Borough

Stelton Road had the highest volume of traffic and the highest number of total crashes.

Several issues were observed during the audit, including, but not limited to:

- Sidewalk gaps and faded crosswalks;
- Non-compliant signage; and,
- High travel speeds and high-speed turns.

Corridor-wide recommendations include, but are not limited to:

- Incorporation of leading pedestrian intervals to reduce pedestrian crash exposure;
- New "no turn on red" signage to mitigate vehicle-vehicle/pedestrian conflicts; and,
- New and reconstructed sidewalk and buffer zones.

1.4 Next Steps

With these recommendations in hand, the County has several funding sources to pursue the project development process to address safety needs in these corridors. For improvements coded in the Implementation Matrices as being low-cost, short-term improvements, the County may move forward (or may already have) on implementing such improvements in the field, such as signing of No Turn on Red restrictions. Conversely, high-cost, long-term recommendations may be well suited for coordination with NJDOT to generate a Problem Statement where County/State jurisdiction intersect and grant applications, such as:

1. Safe Streets and Roads for All- Implementation funding program for corridors with significant FSI (fatal and serious injury) crash history, administered by USDOT;
2. Safe Routes to School Design program administered by NJDOT;
3. Local Safety Engineering Assistance Program for County corridor-wide improvements, administered by NJTPA; and,
4. Transportation Alternatives Program for active mode improvements, administered by NJDOT.

2 Introduction

The Middlesex County (County) Road Safety Audit (RSA) study presents targeted recommendations to improve the safety of all roadway users on five County roadways. This report outlines the data collection, study methodologies, findings, and recommendations used to address safety concerns and explains select improvement strategies that best address them. Improvement options range from low-cost, rapid response action items to higher-cost, longer-term construction projects requiring engineering, stakeholder input, and funding. There are also policy related recommendations s.

2.1 Purpose & Need of Study

Since 2022, Middlesex County has prioritized its Vision Zero goal of eliminating all motor vehicle fatalities and severe injuries by 2040. This ambitious commitment is rooted in the adoption of the Vision Zero pledge and Action Plan and reflects the County's unwavering belief that traffic deaths and serious injuries are preventable. Guided by the Federal Highway Administration's Safe System Approach, the County is advancing impactful actions recommended in the Middlesex County Vision Zero Action Plan across five key areas: *Safe Roads, Safe Speeds, Safe Road Users, Safe Vehicles, and Post-Crash Care*.

The Middlesex County RSAs study is born out of a *Safe Roads* action item from the Middlesex County Vision Zero Action Plan[3]. Safe Roads means designing roadway environments to mitigate human mistakes and account for injury tolerances, encouraging safer behaviors, and facilitating safe travel by the most vulnerable roadway users[4]. The action plan commissioned the County to conduct RSAs on High Injury Network (HIN) corridors as a critical step toward informing and prioritizing future safety improvements. In alignment with this recommendation, the County applied to the North Jersey Transportation Planning Authority (NJTPA) for funding

[3] https://www.middlesexcountynj.gov/home/showpublisheddocument/4836/637987645910170000
[4] https://www.transportation.gov/safe-system-approach/safer-roads

through the Subregional Studies Program (SSP) and was awarded support to conduct RSAs on five key corridors within the County.

Every year, considerable resources are invested to improve roadway safety and reduce crashes. Middlesex County has, since 2022, had the commitment to eliminate all motor vehicle fatalities and severe injuries by 2040 through its Vision Zero pledge and Action Plan. The purpose of this study was to perform RSAs on County roadways in reaction response to the RSA action item recommended within the County's Vision Zero Action Plan. Five corridors were selected for RSA review as a critical step toward informing and prioritizing future safety improvements. The selection of the corridors was based on public, stakeholder, and Technical Advisory Committee input, as well as crash data, demographic data, and recommendations from prior County studies.

An RSA is a proactive, formal assessment of roadway safety conducted by an independent, multidisciplinary team. Typically, the implementation of safety improvements RSAs recommend can reduce fatal crashes by 10 to 60 percent.[5] Conducting RSAs provides strategies to achieve the following benefits:

- Reduce number and severity of crashes due to safer designs.
- Reduce costs resulting from early identification and mitigation of safety issues.
- Improve awareness of safe design practices.
- Increase opportunities to integrate multimodal safety strategies and proven safety countermeasures.
- Expand ability to consider human factors in all facets of design.

[5] Proven Safety Countermeasures - Road Safety Audits - https://safety.fhwa.dot.gov/provencountermeasures/road_safety_audit/

3 Overview of RSA Process

As defined by the Federal Highway Administration (FHWA, highways.dot.gov/safety/data-analysis-tools/rsa/road-safety-audits-rsa), an RSA is the formal safety performance examination of an existing roadway by an independent, multidisciplinary team including but not limited to law enforcement, local policy makers, and engineers. The audit qualitatively reports on potential roadway safety issues based on the experiences of roadway users and identifies opportunities to improve roadway safety for all roadway users.

An RSA aims to answer the following questions:

- What elements of the roadway may present a safety concern: to what extent, to which roadway users, and under what circumstances?
- What opportunities exist to eliminate or mitigate identified safety concerns?
- Compared to traditional safety reviews, RSAs offer the following key advantages:
    - The audit is performed by a multidisciplinary team, including local law enforcement, local advocacy organizations, and local officials, in addition to engineers and planners;
    - The audit considers all potential roadway users and accounts for human factors; and,
    - The audit produces a formal report with targeted safety recommendations.

For over two decades, the proven FHWA RSA process has traditionally included eight steps, as shown in **Figure 2**, which goes beyond the in-field effort to describe the work that does into RSA preparation and dissemination of findings.

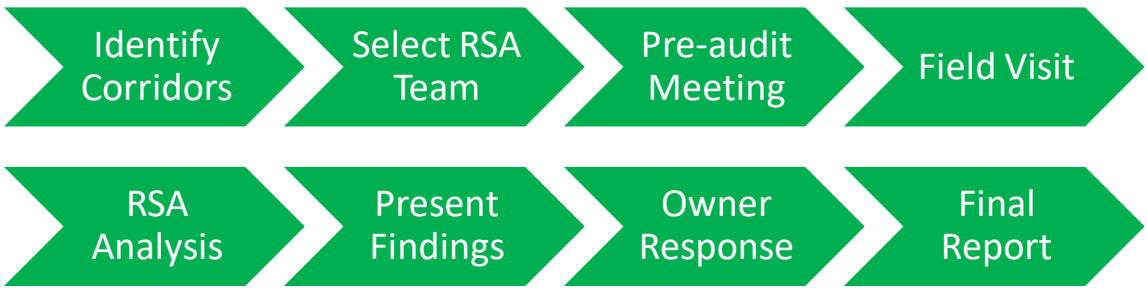


Figure 2 - FHWA Eight Step RSA Process

Contextualized to this study, this project employed the FHWA's eight steps as follows: 1) corridors were selected with the assistance of a Technical Advisory Committee at an initial meeting, 2) a pre-RSA Local Officials Meeting was held to select the local and regional stakeholders to participated in the RSA process, 3) a following series of meetings served as a means of orientation to proposed RSA staff, 4) the actual field visit is conducted to formulate "ground-truthed" needs and countermeasures, 5) post-RSA efforts provide an opportunity to analyze and compile findings, 6) findings are presented to the County in a series of RSA reports for each corridor, 7) the County provides an owner response, and 8) this very Final Report document is issued. The plan for implementation of the improvement strategies may be phased as resources allow. The selection of the corridors was based on public, stakeholder, and Technical Advisory Committee input, as well as crash data, demographic data, and recommendations from prior County studies.

4 Corridor Selection Process

The corridor selection process began with a review of the County's Vision Zero Action Plan and North Jersey Transportation Planning Authority's (NJTPA) Network Screening Lists (NSL), which identify the top crash corridors in Middlesex County. The NSL is a programmatic analysis of statewide locations utilizing data for arterial County roadway corridors with the highest density of motor vehicle crashes. From the top 20 ranked corridors, the study team excluded 10 corridors that had already undergone safety audits, had recent or planned infrastructure improvements, or presented overlapping priorities with other initiatives. The remaining 10 corridors were further evaluated and prioritized based on historical crash frequency and severity, historical pedestrian and bicycle crash frequency, census tract demographic composite scores from the NJTPA, the presence of previous studies, and selections from the Technical Advisory Committee (TAC) who guided the study's process. This multi-criteria approach ensured that the selected corridors reflect both data-driven safety concerns and input from key stakeholders. This corridor selection process is covered in further detail in the memo appended in **Appendix B**.

4.1 Methodology

The 10 corridors prioritized for the RSA study are provided in **Table 1** with their milepost extents, scoring/ranking values (values further explained in **Appendix B**), and the municipalities they transect. The selection process of the initial list of 20 corridors used a methodology from NJDOT to quantify crash frequency and severity along 1-mile corridors on County and local roadways. The 2018 through 2020 crash data was used for this effort. The data was quantified in a combined corridor score for the 10 corridors. The combined corridor score was based on 1) crash severity values, 2) pedestrian/bicycle crash activity, 3) demographic data, 4) data on recommendations from previous studies, and 5) voting data from the first Technical Advisory Committee meeting. All factors were weighted in a matrix from which the resulting rankings are shown by corridor number in **Table 1**, with Stelton Road being the highest ranked corridor



while Summerhill Road was the lowest ranked corridor (table was originally ordered by crash frequency/severity). The location of the corridors within the County is depicted in **Figure 3**.

Table 1 - Short List of 10 Candidate Corridors

Corridor # /Rank	County Road (Street Name)	Mileposts	Corridor Score	Municipalities
1	CR 529 (Stelton Road)	4.17-5.17	1.9	Piscataway/South Plainfield
4	CR 617 (Ryders Lane)	4.90-5.90	1.2	Milltown/East Brunswick
5	CR 673 (Ernston Road)	0.00-1.00	1.2	Sayreville/Old Bridge
6	CR 616 (New Brunswick Avenue)	0.80-1.80	1	Woodbridge/Perth Amboy
9	CR 535 (Washington Road)	29.50-30.50	0.9	Sayreville
10	CR 656 (Industrial Ave./Riverside Dr./Smith St.)	1.09-2.09	0.8	Woodbridge
3	CR 653 (Amboy Avenue)	0.08-1.08	1.7	Perth Amboy
2	CR 529 (Plainfield Avenue)	0.10-1.10	1.7	Edison
7	CR 603 (Lakeview Ave./Plainfield Ave.)	2.55-3.55	1	South Plainfield
8	CR 613 (Summerhill Road)	7.10-8.10	0.9	Spotswood/East Brunswick

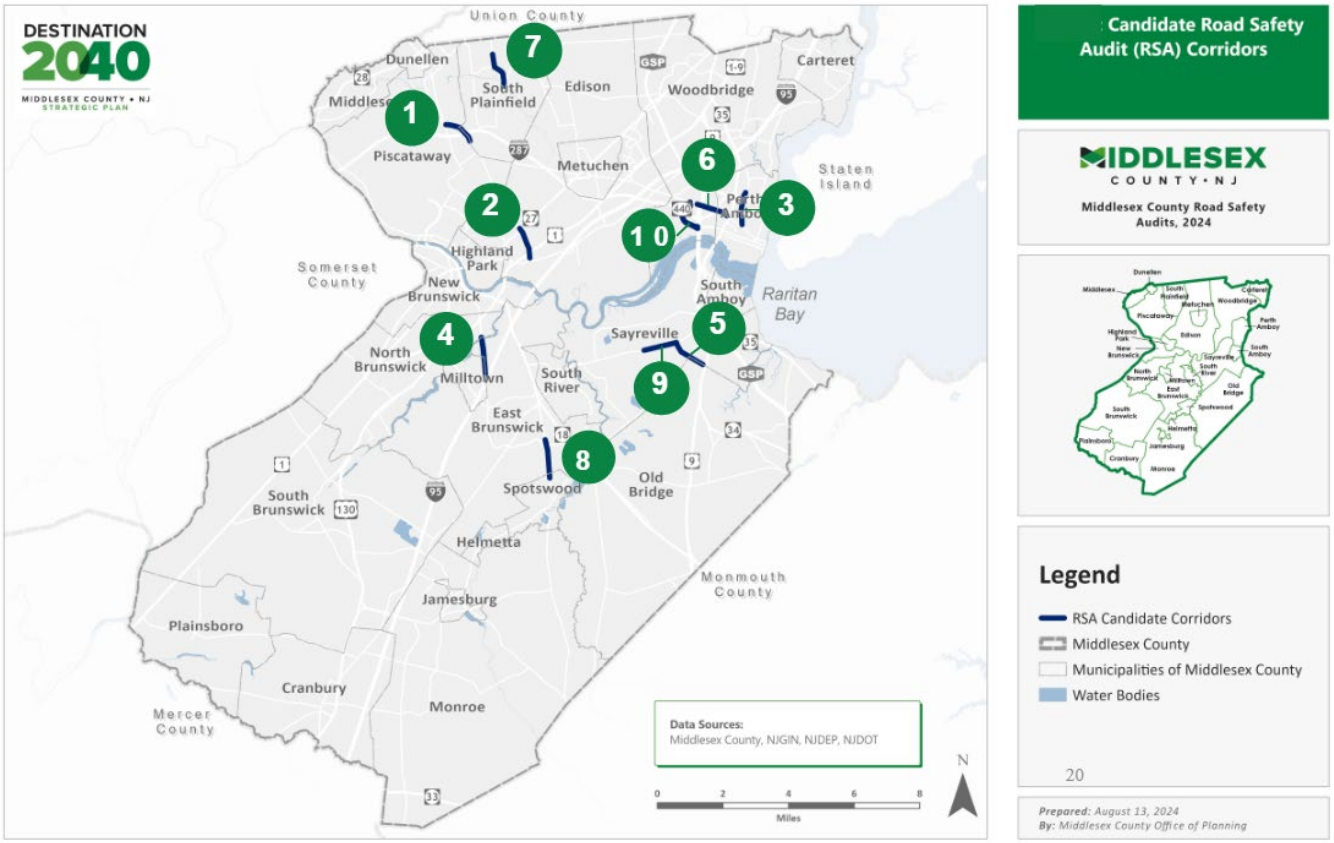


Figure 3 - Map of Short List Candidate Corridors in Middlesex County

4.2 Final Rankings

As documented in **Appendix B**, the final five corridors were selected based on general crash data, active mode crash data, demographic data, and previously recommended projects, the first three of which served at the main drivers for corridor selection. In other words, corridors that already had a relatively high total and severity of crash data were selected when also experiencing pedestrian/bicycle crash issues or located in a historically-underserved community. Such data was shared with the Technical Advisory Committee at a meeting on August 21st, 2024 with voting further refining the five corridors to be selected. The five corridors that ranked most highly were approved by the Middlesex County Office of Planning and Middlesex County Office of Engineering the very next week. Based on the above listed methodology, the top five ranked corridors were selected to be audited; the corridor scores are listed in **Table 2** (further explained in **Appendix B**) and their locations within the County are

shown in **Figure 4**. Pedestrian/bicycle crash data and demographic data drove the high ranking for Plainfield Avenue and Amboy Avenue corridors, while the selection of the three other corridors was more so tied to crash frequency and severity.

Table 2 - Ranked Corridors for RSAs in Middlesex County

Corridor Rank	County Road (Street Name)	Mileposts	Municipalities	Corridor Score
1	CR 529 (Stelton Road)	4.17-5.17	Piscataway/South Plainfield	1.9
2	CR 529 (Plainfield Avenue)	0.10-1.10	Edison	1.7
3	CR 653 (Amboy Avenue)	0.08-1.08	Perth Amboy	1.7
4	CR 617 (Ryders Lane)	4.90-5.90	Milltown/East Brunswick	1.2
5	CR 673 (Ernston Road)	0.00-1.00	Sayreville/Old Bridge	1.2

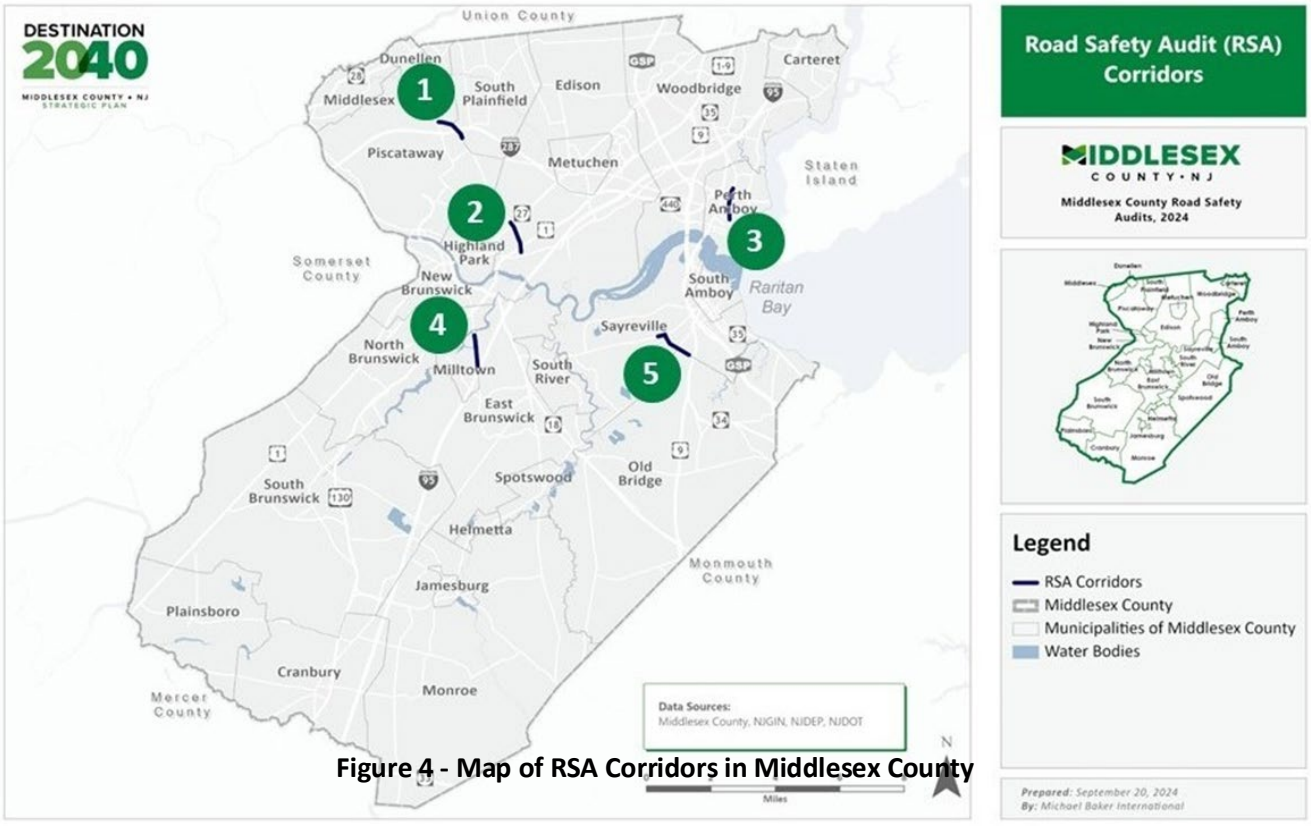


Figure 4 - Map of RSA Corridors in Middlesex County

5 Public & Stakeholder Input

5.1 Public Engagement Plan

As laid out in the Public Engagement Plan (PEP), the County and project team led a multi-pronged and iterative effort to solicit stakeholder and community feedback to inform the vision for safer roadways in Middlesex County. Outreach included substantive discussions with key stakeholders about corridor selection, on-the-ground conditions, and draft recommendations through a series of Technical Advisory Committee and Local Officials meetings. Draft recommendations were also informed by the RSAs themselves (see the **Literature Review & Study Recommendations** section) and through Public Information Sessions with community members in each of the corridor study areas. Stakeholder and public engagement was supported through communications activities, including a project webpage, flyers, social media, press releases, and partnerships with stakeholders to distribute the same to their respective constituencies.

5.2 Communications

The public involvement process began with the launch of a project webpage (www.middlesexcountynj.gov/roadsafety) housed on the County's website, where stakeholders could find information about the study's purpose, project updates, resources, and ways to get involved. The project team prepared press release content, a blast email template, and project-branded social media content and flyers (**Figure 5**) for use in Middlesex County, municipal, and external stakeholder communications. The materials were pulled together in "communications sharekits" that provided easy cut-and-paste content for the distribution of advertising by partners. The advertising materials were translated into the top two to three non-English languages spoken in each of the corridors.

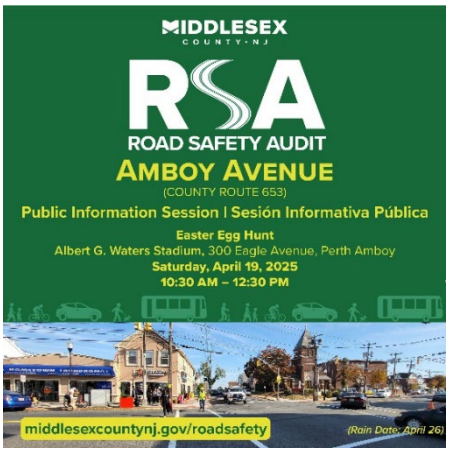


Figure 5 - RSA Social Media Image

5.3 Technical Advisory Committee

Meeting three times throughout the planning process, the Technical Advisory Committee (TAC) provided qualitative support for the project by informing and collaborating with the County and project team to develop and implement the PEP and defining priorities for the Middlesex County RSAs. They also served as a technical resource for the project team, providing necessary background documentation, insights into on-the-ground conditions, and feedback about localized implications and ramifications of draft strategy recommendations. Several TAC members also participated in the RSAs, lending their expertise to the observations and recommendations for specific corridors. In addition to the TAC meetings, the County and project team held technical working group meetings with the New Jersey Department of Transportation (NJDOT) to determine appropriateness and feasibility of any draft recommendations for roadway segments under their authority. The project team integrated any necessary revisions prior to presenting the draft recommendations to the TAC or municipal partners.

5.3.1 TAC Members

Members of the TAC included County, regional, and state government staff, as well as representatives from advocacy organizations and other community-based organizations with a vested interest in improving roadway safety across Middlesex County.

- Alan M. Voorhees Transportation Center (VTC)
- American Association of Retired Persons (AARP)
- Federal Highway Administration (FHWA)
- Keep Middlesex Moving (KMM)
- Middlesex County Engineering
- Middlesex County Health & Safety
- Middlesex County Planning
- NJ TRANSIT
- New Jersey Department of Transportation (NJDOT)
- North Jersey Transportation Planning Authority (NJTPA)
- NJ Bike & Walk Coalition (NJBWC)



- Port Authority of NY & NJ (PANYNJ)
- Tri-State Transportation Campaign (TSTC)
- RSA Corridor Municipalities *(Meeting 2 & 3)*: East Brunswick Township, Edison Township, Milltown Borough, Old Bridge Township, City of Perth Amboy, Piscataway Township, and South Plainfield Township

5.3.2 TAC Meeting #1

Eleven members participated in the first meeting of the TAC, held virtually on August 21, 2024. The purpose of the meeting was to introduce the Middlesex County RSA project, gather insights to shape the project approach, discuss the goals of the study, and guide the selection of five County roadway corridors to conduct audits.

After an overview of the project purpose, anticipated work products, and timeline, the project team outlined the four technical analysis criteria that would inform the County's decision-making process for corridor selection. TAC members were then asked to share their opinion through an in-meeting poll on the priority that each of the four technical analysis criteria should take. As shown in **Figure 6**, the TAC ranked the four priorities in the following order: *Crash Frequency and Severity*, *Pedestrian and Bicycle Crash Data*, *Equity Data*, and *Recommendations from Previous Studies*.

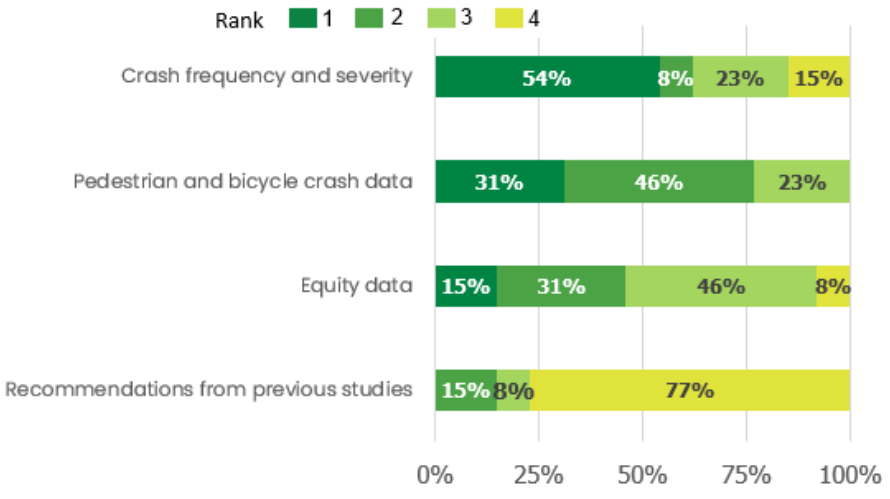


Figure 6 - TAC Meeting #1 Poll: Corridor Prioritization Criteria Ranking

The TAC then received an overview of the ten corridors that had been short-listed for an RSA based on recent crash data, socioeconomic data, and recommendations from previous studies. Members shared insights or other considerations about the potential RSA corridors and the selection process. Discussion elaborated on the technical analysis criteria and known safety issues on the short-listed corridors.

The meeting concluded with another poll question asking the TAC members to rank their top three corridors to conduct an RSA. As shown in **Figure 7**, the TAC ranked the five priorities in the following order: *Amboy Avenue*, *Stelton Road*, *Ernston Road*, *Ryders Lane*, and *Plainfield Avenue*.

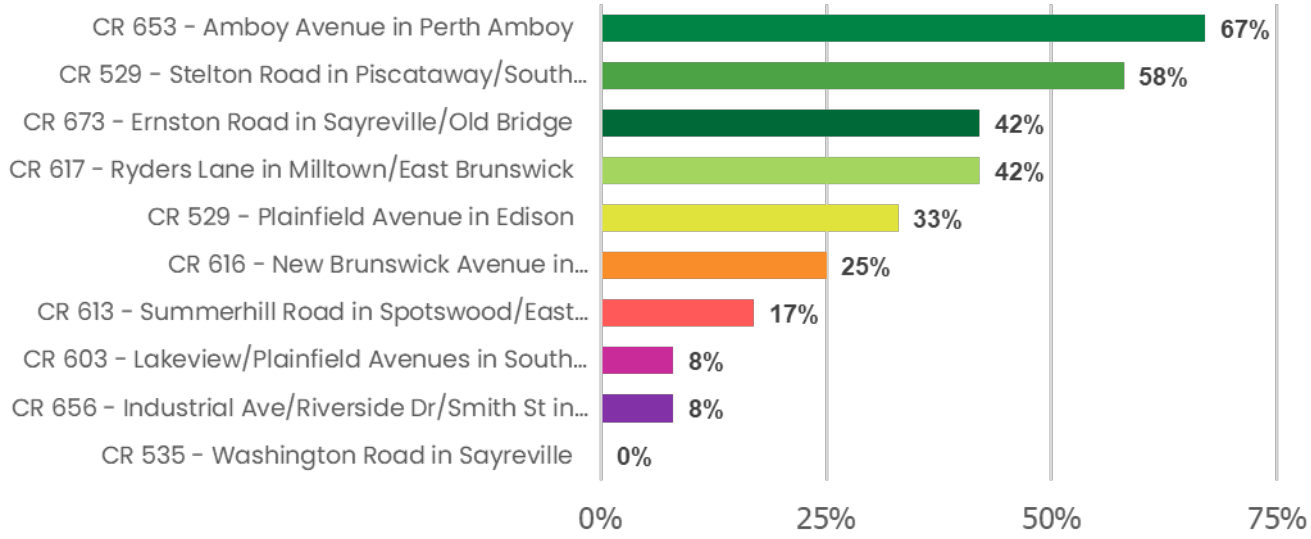


Figure 7 - TAC Meeting #1 Poll: Top Corridors to Conduct an RSA

5.3.3 TAC Meeting #2

Seventeen members attended the second TAC meeting, held virtually on March 5, 2025. The purpose of the meeting was to review the findings from the RSAs and draft recommendations, discuss potential funding programs and policies to support implementation, and share details about public outreach logistics. A high-level overview of the five corridors was provided, including their locations, aerial views, and the experiences of driving, walking, or biking along

them. Proposed safety improvements for one intersection along each corridor were presented, along with a video of near-miss incidents at those intersections. TAC members were generally supportive of the recommendations, offering some technical clarifications and recommendations, and discussing potential funding opportunities, such as Safe Routes to School.

5.3.4 TAC Meeting #3

Nine members participated in the third TAC meeting, held virtually on May 15, 2025. This meeting provided an opportunity to share the results of the Public Information Sessions. Since many of the recommendations emerging from this study are under municipal jurisdiction and are the responsibility of the municipalities to construct, operate, and/or maintain, the County used this meeting to facilitate discussion about next steps, including funding and grant opportunities, opportunities for quick-build demonstration projects, and other low-cost interventions that can be incorporated into the regular maintenance schedule.

5.4 Local Officials Meetings

The County and project team facilitated 10 local officials meetings (**Table 3**), two for each corridor, at key points in the planning process with municipal representatives from each of the selected corridors to gather local knowledge about on-the-ground conditions and community expectations. The first set of meetings occurred after the corridors were selected but prior to the RSA to gather background information and prepare for the RSAs. The second set of local officials meetings occurred after the RSAs to review the results and discuss draft recommendations. Participants varied for each corridor, but generally included the Business Administrator, engineer, planner, police department, public works, community development, and/or a representative from the mayor's office.



Table 3 - Local Officials Meetings Dates and Attendance

Corridor	Local Officials Meeting #1	Local Officials Meeting #2
Amboy Avenue	October 22, 2024 (7 Attendees)	February 13, 2025 (2 Attendees)
Ernston Road	October 2, 2024 (7 Attendees)	February 13, 2025 (5 Attendees)
Plainfield Avenue	October 17, 2024 (3 Attendees)	February 10, 2025 (3 Attendees)
Ryders Lane	October 9, 2024 (7 Attendees)	February 19, 2025 (3 Attendees)
Stelton Road	October 7, 2024 (Piscataway/3 Attendees) October 8, 2024 (S. Plainfield/5 Attendees)	February 10, 2025 (4 Attendees)

5.4.1 Local Officials Meeting: Pre-RSA

The first set of meetings occurred after the corridors were selected but prior to the RSA, to introduce the local officials to the project's purpose, scope, and goals of the study, gather insights into the selected corridor, and share the RSA logistics plan. A total of six meetings, one for each corridor (except two for Stelton Road), were conducted in this round. Baseline information about the corridor was shared to inform and guide subsequent discussion, where participants were asked to share information about existing traffic studies, roadway projects, development activities, and any other traffic safety observations and concerns about the corridor.

5.4.1.1 Amboy Avenue

Key points from the Amboy Avenue discussion included the ongoing development of the municipal Master Plan, an anticipated Outerbridge Crossing study, and the award of a Safe Routes to School grant impacting Amboy Avenue to New Brunswick Avenue. There is limited



planned or proposed development along the corridor. Participants shared observations about the increase in micromobility use, potential causes/interventions for crashes along the corridor, and general concerns for students walking along and crossing Amboy Avenue.

5.4.1.2 Ernston Road

Key points from the Ernston Road discussion noted several development applications along or near the corridor that are expected to increase traffic volumes, including an age-restricted affordable housing development, a minimart, a house of worship, and warehouses. Old Bridge has two NJDOT Local Freight Grants that are going out to bid. Observations of the corridor included limited shoulders with wide cartways encouraging speeding, people often traveling into opposing traffic lanes to get into left turn lanes, and the ever-increasing traffic congestion, with major contributors of said congestion at the intersection of Ernston and Washington Roads being the Shoprite, Sayreville High School, and the largest recreational facility in town. The traffic signals have already been optimized the best they can.

5.4.1.3 Plainfield Avenue

Key points from the Plainfield Avenue discussion included the recent update of the municipal Master Plan calling for the rehabilitation of this area, and that efforts to improve safety along the corridor will support that effort. There are several approved, pending, or anticipated development applications, including a new building part of Festival Plaza, which is seeking approval from NJDOT to add a crosswalk with a traffic control device at the entrance across from Schuyler Drive. Recent modifications at the Greenwood Avenue intersection resulted in a decline in crashes. General observations of the corridor include limited access for pedestrians, poorly maintained catch basins, traffic backups at lights, and increased traffic attributed to home deliveries.

5.4.1.4 Ryders Lane

Key points from the Ryders Lane discussion noted an approved storage facility and a proposal for residential development at East Mill Plaza in Milltown. A traffic signal at Heritage Plaza is in



the design process. The ongoing Route 18 project is shifting additional traffic to Ryders Lane. General observations highlighted driver inattention and speeding as major contributors to crashes.

5.4.1.5 Stelton Road

Key points from this discussion noted that South Plainfield Borough is updating its Master Plan, including a Circulation Element. With an anticipated adoption in the Spring, the findings from this study could be incorporated. A large ShopRite opened at Hadley Commons within the past year, which increased traffic volumes along the corridor. A 1.2 million square foot warehouse proposed off New Brunswick Avenue and a new development at New Brunswick Avenue and Tyler Place will bring 500+ new residential units - both will likely impact traffic flow on Stelton. There are several complete, in-progress, or proposed roadway or signal improvements along the corridor. General observations of the corridor included poor lighting, drainage issues, missing sidewalk segments, insufficient crosswalks, pedestrians crossing midblock and waiting in the median, left turn lanes inhibiting pedestrian crossings, and many left turn collisions.

5.4.2 Local Officials Meetings: Post-RSA

The purpose of the second round of local officials meetings was to review the results of the RSAs and recommended safety improvements for all corridors and to discuss logistics for the Public Information Session. A total of five meetings, one for each corridor, were conducted in this round.

5.4.2.1 Amboy Avenue

Response to the recommendations was generally positive. The City expressed concern about narrowing the access to/from Route 440, as the area already sees a lot of traffic backup. The concern was noted, which led to the removal of this recommendation from the final report. There was also discussion about where any proposed bike lanes along Amboy Avenue would connect to, given that there are currently no bike lanes in the City. During the Circulation Plan outreach, the public expressed concern about losing on-street parking for bike lanes. In



response to the discussion, the County retained the recommendation for on-street bike facilities and daylighting with the caveat that further study is needed.

5.4.2.2 Ernston Road

Response to the recommendations was generally positive, with participants sharing observations of driver behaviors and sidewalk conditions to support the recommendations.

5.4.2.3 Plainfield Avenue

Response to the recommendations was generally positive. Some concerns and alternatives discussed for the Greenwood Avenue intersection included potential issues with snowplows at hardened centerlines, converting Greenwood Avenue to one-way, adding a flashing pedestrian beacon, or adding curb extensions. The Township suggested that the RSA report mention one-way conversion of both or either leg of the Greenwood Avenue intersection, which was ultimately incorporated into the final RSA report.

5.4.2.4 Ryders Lane

Response to the recommendations was generally positive, with a high priority placed on sidewalk improvements. Participants also recommended “Do Not Block the Box” signage at Delwood to help manage traffic flow. This suggestion led to access management modifications n, such as median separation and turning prohibitions, in the final RSA report.

5.4.2.5 Stelton Road

Response to the recommendations was generally positive. There was concern about the impacts to traffic associated with the removal of channelized right-turn lanes at Centennial Avenue/Hadley Road, and a general recommendation that the impacts of future planned development be considered for final engineering of any improvement along the corridor. The concern about traffic related to the removal of the channelized lane was noted, which led to the removal of this recommendation from the final RSA report.



5.5 Public Information Sessions

Public Information Sessions facilitated connections between the Middlesex County RSA team and the community. The sessions also provided an opportunity for community members to learn about local resources to address roadway safety concerns and connect with their local agencies, such as the Police Department, municipal representatives, and County Officials, as well as regional resources like the North Jersey Transportation Planning Authority (NJTPA), the Keep Middlesex Moving (KMM), and the New Jersey Department of Highway Traffic Safety (NJDHTS). Events were held for each of the five corridors throughout April 2025, featuring project information and activities that invited participants to share their travel experiences and respond to the RSA study recommendations. The feedback and input collected from the Public Information Sessions informed the draft recommendations.



STELTON ROAD
Eisenhower Elementary School
April 8, 2025



RYDERS LANE
Cedar Village Clubhouse
April 10, 2025



AMBOY AVENUE
Waters Stadium
April 19, 2025



PLAINFIELD AVENUE
Edison Public Library
April 24, 2025



ERNSTON ROAD
Sayreville Public Library
April 26, 2025

5.5.1 What We Heard

The outreach highlights presented in this document are drawn from the comprehensive analysis of public outreach results detailed in **Appendix C**.

When asked how safe they feel using different modes of travel, participants overwhelmingly felt unsafe walking, biking, and driving along the five corridors (**Figure 8**)

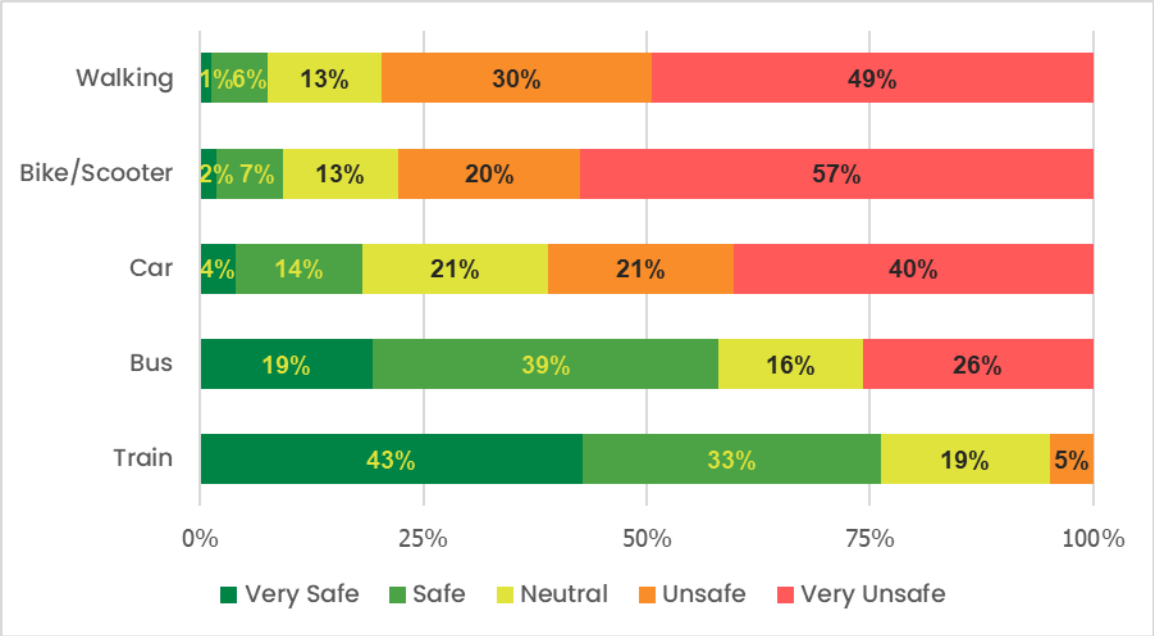


Figure 8 - Public Information Sessions: Perception of Safety by Travel Mode

Public Information Session participants were also asked to share their safety concerns for the corridors, which were coded into themes and generally fall into two categories – roadway design and roadway user behaviors (**Figure 9** and **Figure 10**). The majority of responses (56 percent) related to design, with the top concerns being *inadequate pedestrian accommodations* and *dangerous or confusing intersections*. Representing 44 percent of all responses, the top behavior concerns include *too much traffic*, *illegal maneuvers*, and *speeding vehicles*.

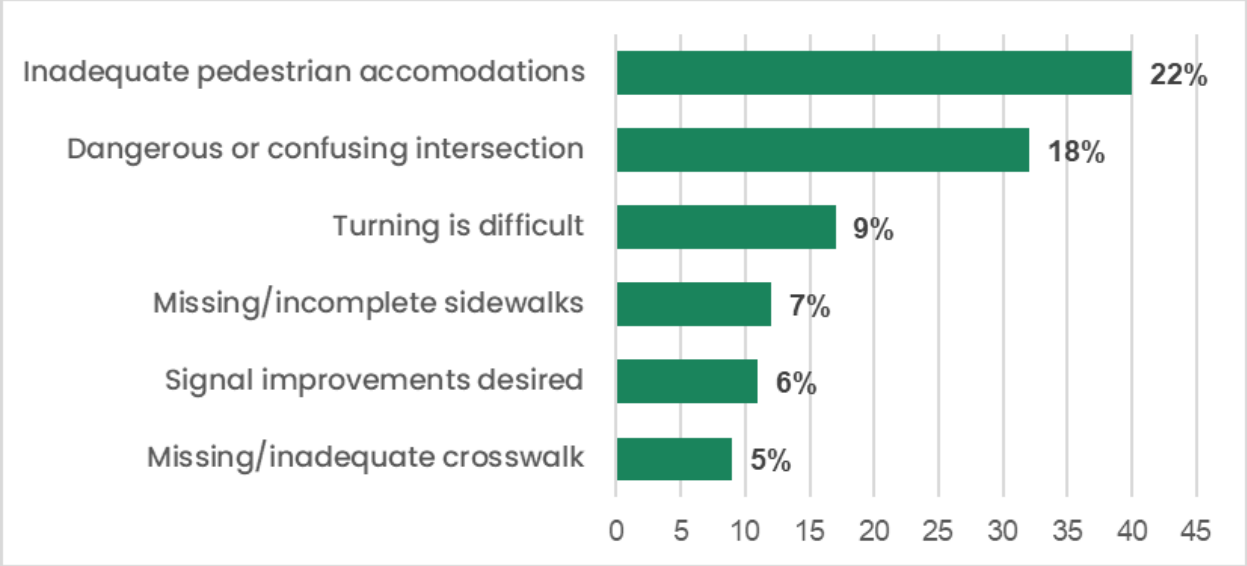


Figure 9 - Public Information Sessions: Corridor Safety Concerns (Design)

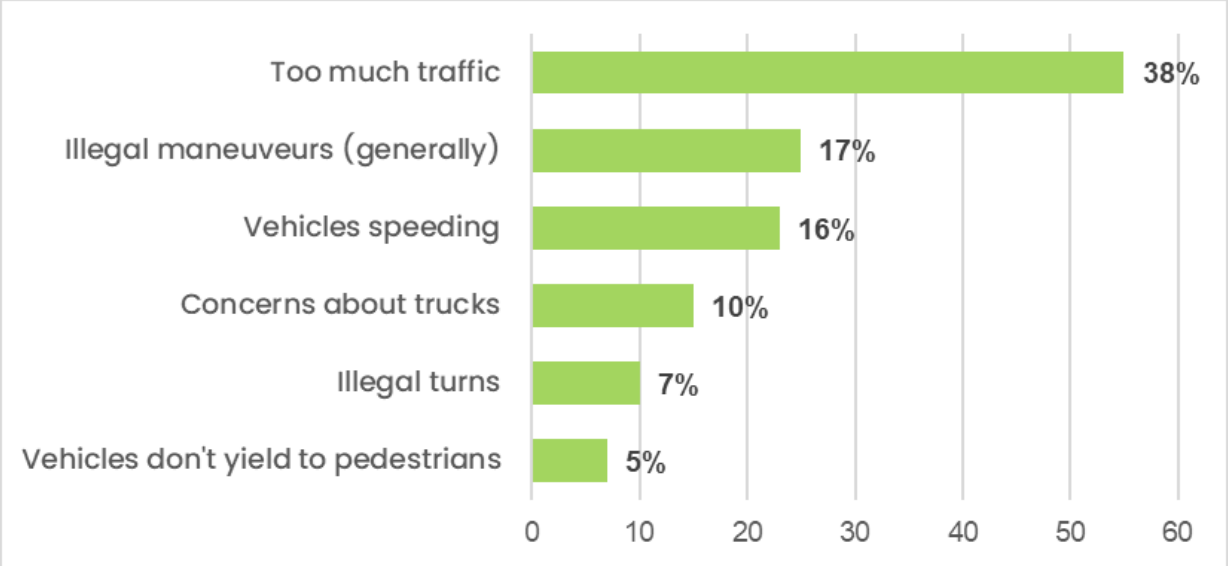


Figure 10 - Public Information Sessions: Corridor Safety Concerns (Behaviors)

6 Data Collection

To support the analysis of this study, land use and corridor context, crash and near-miss data, motor vehicle traffic data, along with multimodal data associated with the study areas were collected from various agents. Land use data was obtained to depict the locality and the surrounding context of the corridor. Crash data was obtained for the study area and Middlesex County overall from NJDOT's Safety Voyager and New Jersey Division of Highway Traffic Safety's (NJDHTS) Numetric for the five-year period (2019 through 2023) for vehicle-bicycle and vehicle-pedestrian crashes, and the three-year period (2021 through 2023) for vehicle-to-vehicle crashes. The crash datasets were de-duplicated, and crashes occurring on freeways or within parking lots were removed to accurately reflect the observed crashes along the study corridor. Crash reports were requested for the case (incident) numbers listed in the combined dataset as well as any additional crash reports in the study area that the municipality held. The crash narrative and diagram included in the NJTR-1 form, as completed by the on-scene law enforcement, provided detailed accounts of the incident. Data collection for the near-miss conflict analysis involved 48 hours of video recording at the intersection. The video recording was processed using Quality Count's DataLens software, which flagged near-misses using artificial intelligence technology. Motor vehicle traffic data, including bi-directional volumes and speeds, and vehicular turning movement counts were collected at selected locations for each corridor. Public transit and bicycle information within the study area were also surveyed.



6.1 Land Use and Corridor Context

6.1.1 Ryders Lane in East Brunswick Township and Milltown Borough

The study area of CR 617 (Ryders Lane) is 1.00 mile in length and is located in the Township of East Brunswick and Borough of Milltown. The corridor extends along Ryders Lane from north of the New Jersey Turnpike at MP 4.90 to north of Sullivan Way at MP 5.90, as depicted in **Figure 11**.

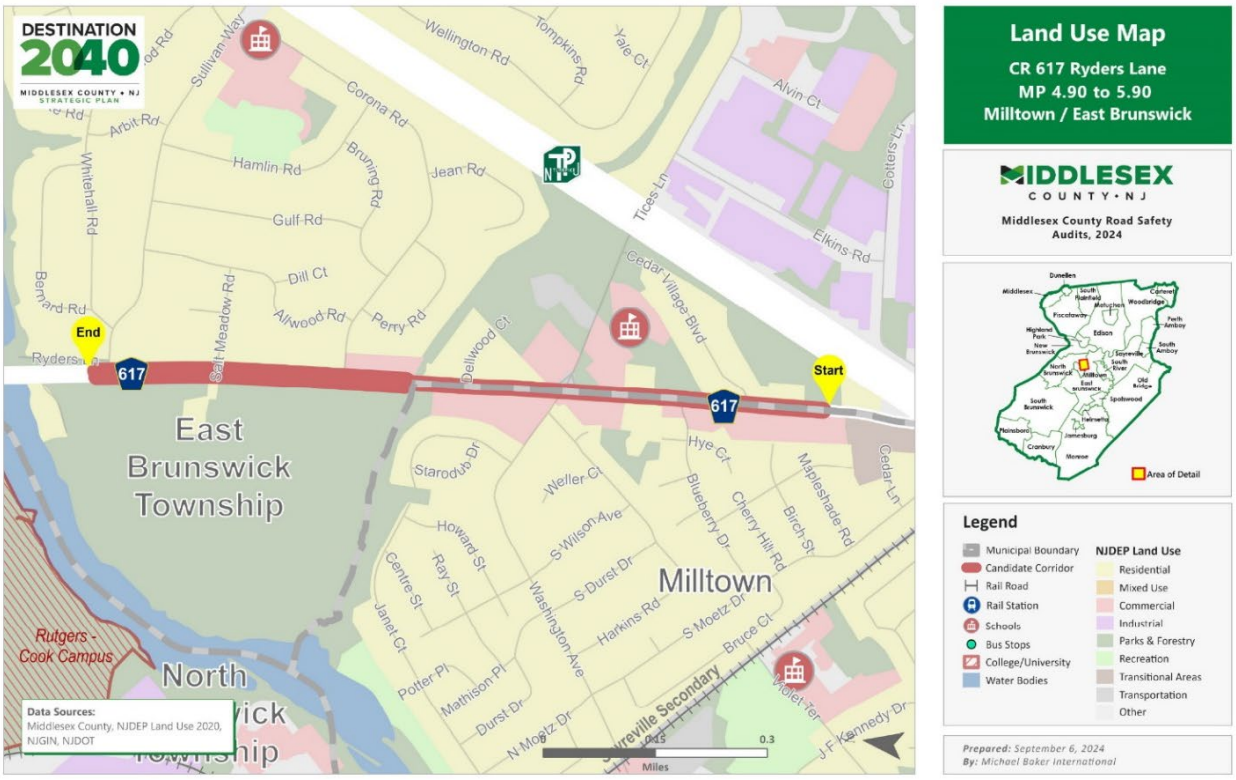


Figure 11 - CR 617 Ryders Lane Project Location and Land Use Map

Ryders Lane provides a major parallel route to NJ 18 in East Brunswick and carries regional traffic when NJ 18 is congested. Additionally, Ryders Lane connects Milltown and East Brunswick to New Brunswick, as well as US 1, and the New Jersey Turnpike at Exit 9, which are the primary North-South regional roadways.

6.1.2 Plainfield Avenue in Edison Township

The study area of CR 529 (Plainfield Avenue) is 1.00 mile in length and is located in the Township of Edison. The corridor extends from the intersection with Irving Street at MP 0.10 to just north of the intersection with Greenwood Avenue at MP 1.10, as depicted in **Figure 12**.

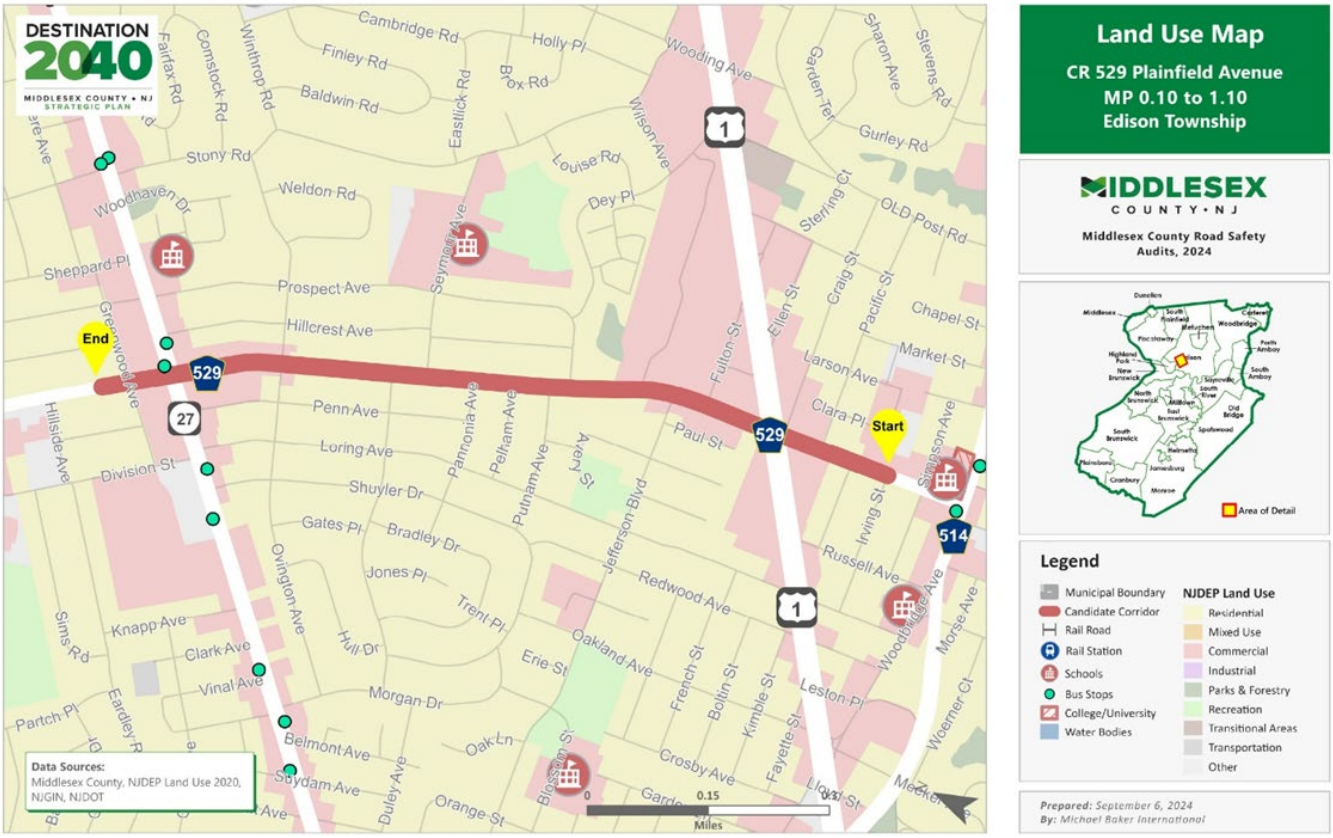


Figure 12 - CR 529 Plainfield Avenue Project Location and Land Use Map

Plainfield Avenue provides a north-south connection through Edison, connecting US 1, US 27, and providing access to the Edison Train Station, an industrial area, Rutgers Livingston Campus, and Piscataway through one of a limited number of underpasses to cross the Northeast Corridor railroad.

6.1.3 Amboy Avenue in City of Perth Amboy

The study area of CR 653 (Amboy Avenue) is 1.00 mile in length and is located in the City of Perth Amboy. It includes a Central Business District and falls within the new NJTPA Complete Streets Conceptualization pilot program to promote a Complete Streets approach to addressing its safety issues. The corridor extends from the intersection with Washington Street at MP 0.08 to the intersection with Summit Avenue at MP 1.08, as depicted in **Figure 13**.

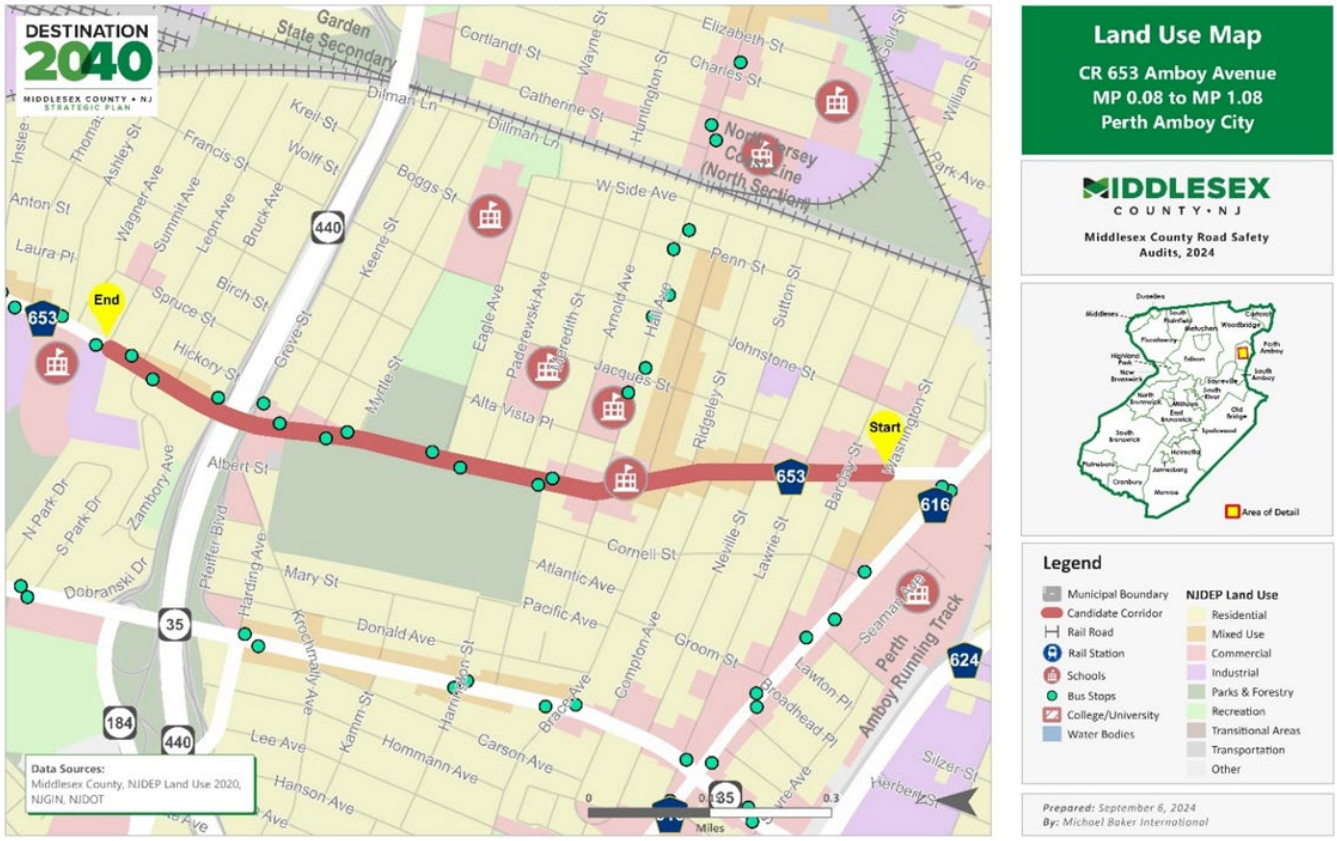


Figure 13 - CR 653 Amboy Avenue Project Location and Land Use Map

Amboy Avenue connects NJ 440 and the Outerbridge Crossing with downtown Perth Amboy, and includes a robust commercial district, as well as access to numerous community schools. Amboy Avenue is also used as a cut-through route for traffic destined for the Outerbridge Crossing when NJ 440 becomes congested.

6.1.4 Ernston Road/Washington Road in Old Bridge Township and Sayreville Borough

The study area of CR 673 (Ernston Road) and CR 535 (Washington Road) is 1.23 miles in length and is located in the Borough of Sayreville and Township of Old Bridge. The corridor extends along Ernston Road from Washington Road at MP 0.00 to Samsel Upper Elementary School at MP 1.00, and on Washington Road are from Sayreville War Memorial High School at MP 30.27 to Ernston Road at MP 30.50, as depicted in **Figure 14.**

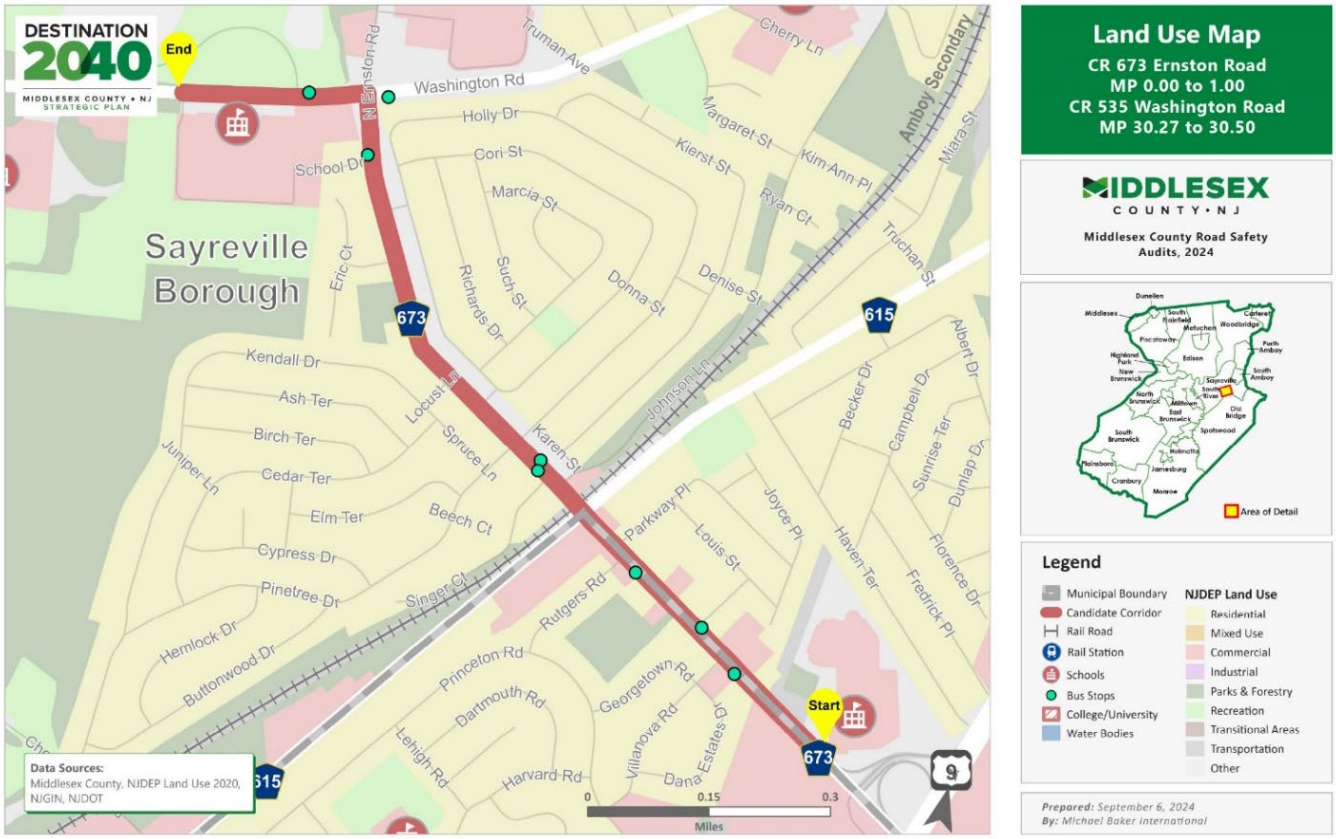


Figure 14 - CR 673 Ernston Road and CR 535 Washington Road Project Location and Land Use Map

Ernston Road serves as an access route between sections of Sayreville and Old Bridge to and from US 9, which provides connections to the regional highway network. Ernston Road also connects various regional routes, including Washington Avenue, and Bordentown Avenue. Washington Road provides a major east-west connection between East Brunswick, South River, and Sayreville, to and from the Garden State Parkway.

6.1.5 Stelton Road in Piscataway Township and South Plainfield Borough

The study area of CR 529 (Stelton Road) is 1.00 mile long and in located in the Township of Piscataway and Borough of South Plainfield. The corridor extends along Stelton Road from the intersection with Centennial Avenue/Hadley Road at MP 4.17 to the intersection with South Washington Avenue at MP 5.17, as depicted in **Figure 15**.

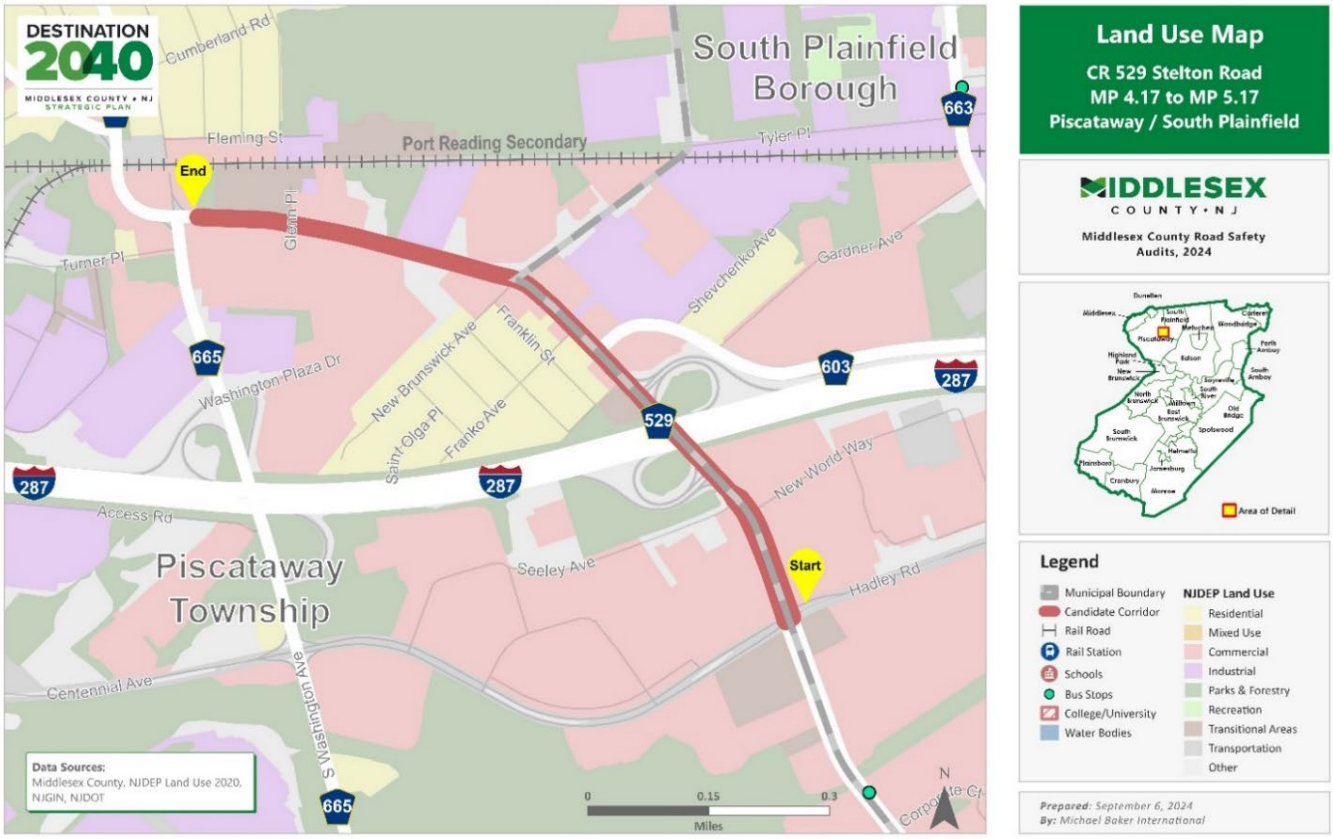


Figure 15 - CR 529 Stelton Road Project Location and Land Use Map

Stelton Road provides critical connections between I-287 and regional arterials, including industrial areas and warehousing generating truck traffic, as well as major commercial and shopping centers directly accessed by major intersecting arterial roadways, such as Centennial Avenue/Hadley Road, Hamilton Boulevard, New Brunswick Avenue, and South Washington Avenue.

6.2 Crash and Near Miss Data

Crash data collected for each corridor was summarized by crash type, severity, and environmental and temporal factors such as time of day, day of week, and month of year to pinpoint potential prevailing causes. Crash data included a five-year study period (2019 through 2023) for vehicle-bicycle and vehicle-pedestrian crashes, and the three-year study period (2021 through 2023) for vehicle-to-vehicle crashes. Countywide crash statistics for these categories were also summarized to provide a reference or average for comparison. Additionally, based on the manual review of crash incident reports, a crash diagram and summary table were developed for the study area and are included as part of the RSA reports (**Appendix A**).

As part of the crash data collection effort for this study, Stantec contracted Quality Counts, LLC to collect 48 hours of video footage at the intersections (industry standard period for such an analysis) with the highest FSI crash totals on each corridor to collect leading indicator data on conflicts resulting in crashes, including volume and post-encroachment time. Near-miss data was collected in September 2024 during average, non-holiday weekday conditions (Tuesday, Wednesday, and/or Thursday) while schools were in session. Such data collection captured near-miss events, which 1) were used in concert with public/stakeholder engagement to show evidence of safety issues and 2) were analyzed to identify root causes and potential crash countermeasure fixes. Each near-miss event was characterized by the two movements that conflicted, with the first listed movement being the one that crossed in front of the other movement. Near-misses involving a vulnerable roadway user (a bicyclist or pedestrian) are characterized by the leg of the intersection they were crossing Near-miss and, specifically for pedestrians, the corner from or to which they were crossing. The post-encroachment time (PET) was also determined for each near-miss. PET is the time between one roadway user leaving a given point on a roadway and a second roadway user arriving at that same point. A PET of zero seconds means that a crash occurred, while a long PET suggests that two roadway users passed through the same point of conflict, but with a significant amount of time having lapsed between both vehicles.



The following subsections present a summary and analysis of crash data with a focus on overrepresented cases and near-miss incidents for each corridor.

6.2.1 Ryders Lane

A total of 146 reported crashes were determined to have occurred in the study area during the study period (2019 through 2023 for vehicle-ped/bike, and 2021 through 2023 for other crashes). **Table 4** details the overrepresented crash types meaning there was a greater observed proportion of crash type along the corridor than that observed countywide. **Table 4** further shows the three highest (highest, second highest, and third highest) observed crash types, and the three highest observed overrepresented crash types (overrepresentation percentage shown as a negative number if underrepresented). Crash types that are overrepresented in the corridor have the greatest potential for safety improvement (PSI).

Table 4 - CR 617 Ryders Lane Study Area Highest Overrepresented and Observed Crash Types

Crash Type	Observed Crash Rank	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation	Overrepresented Crash Rank
Left Turn/U Turn	Second highest	21.2%	2.3%	18.9%	Highest
Same Direction – Rear End	Highest	39.7%	33.1%	6.6%	Second highest
Animal	Not ranked	2.7%	2.3%	0.5%	Third highest
Same Direction - Sideswipe	Third highest	13.7%	15.8%	-2.1%	Not ranked

Left turn/U turn crashes are significantly overrepresented in the study area. Additionally, same direction – rear-end crashes are also overrepresented and are the highest observed crash type. More information on crash data profiles, such as crash type and weather conditions, for this corridor is provided in **Appendix A**.



Figure 16 - CR 617 Ryders Lane Near Miss Example

An example screenshot of a near-miss identified by Quality Count's DataLens software is provided in **Figure 16**. The number of conflicts by mode (vehicle-vehicle, vehicle-bicycle, vehicle-pedestrian) during the 48-hour observation period (Wednesday, September 18 through Thursday, September 19, 2024) and PET are listed in **Table 5**.

Table 5 - CR 617 Ryders Lane Ryders Lane and Washington Avenue Near Misses by Mode and PET

Conflict Mode	Post-Encroachment Time			Total Conflicts	Total Percentage
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	5	27	349	381	97.0%
Vehicle-Bicycle	0	1	3	4	1.0%
Vehicle-Pedestrian	0	1	7	8	2.0%
Total	*5*	*29*	*359*	*393*	*100%*

Vehicle-vehicle conflicts comprised the majority (97 percent) of the near-misses. The near-miss conflict data was further examined to understand patterns and trends. Conflicts with a PET of two seconds or more were not included for further analysis as many of those vehicle-vehicle near-misses were associated with a through movement and the subsequent perpendicular

through movement; furthermore, a two-second conflict is equal to minimum red clearance interval in New Jersey, per the NJDOT Design Manual. A red clearance interval is the time a motorized vehicle takes to clear an intersection between the start of a red signal indication for one traffic stream and the start of the green signal indication for the succeeding conflicting stream. The traffic movement flow with the most near-misses based on a PET of less than two seconds involved a southbound left-turning vehicle in front of a northbound through vehicle. Additionally, each of the near-misses with a PET of less than 1.5 seconds involved this type of traffic flow movement.

Currently, the southbound left turn phasing is protective-permissive, a combination of protected signal phase, in which a green arrow of a traffic signal indicates a protected turn, and a permissive phase, in which left-turning vehicles must yield to the opposing on-coming traffic during the green indication of a traffic signal, with a green ball displayed during the permissive window. Furthermore, sightlines for southbound left-turning drivers may be obstructed by vehicles queued in the northbound left turn lane and by the vertical curve north of the intersection providing further difficulties for the left-turn conflict in question.

6.2.2 Plainfield Avenue

A total of 370 reported crashes were determined to have occurred in the study area during the study period (2019 through 2023 for vehicle-ped/bike, and 2021 through 2023 for other crashes). **Table 6** details the overrepresented crash types meaning there was a greater observed proportion of crash type along the corridor than that observed countywide. **Table 6** further shows the three highest (highest, second highest, and third highest) observed crash types, and the three highest observed overrepresented crash types (overrepresentation percentage shown as a negative number if underrepresented).



Table 6 - CR 529 Plainfield Avenue Study Area Highest Overrepresented and Observed Crash Types

Crash Type	Observed Crash Rank	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation	Overrepresented Crash Rank
Right Angle	Highest	41.9%	16.4%	25.5%	Highest
Pedalcyclist	Not ranked	1.9%	1.0%	0.9%	Second highest
Same Direction – Rear End	Second highest	32.7%	33.1%	-0.4%	Not ranked
Same Direction – Sideswipe	Third highest	14.1%	15.8%	-1.8%	Not ranked

Crash types that are overrepresented along the corridor have the greatest potential for safety improvement (PSI). Right-angle turns are the most overrepresented and highest observed crash type. Additionally, the percentage of bicycle crashes in the study area is almost double the average in Middlesex County. More information on crash data profiles, such as crash type and weather conditions, for this corridor is provided in **Appendix A**.

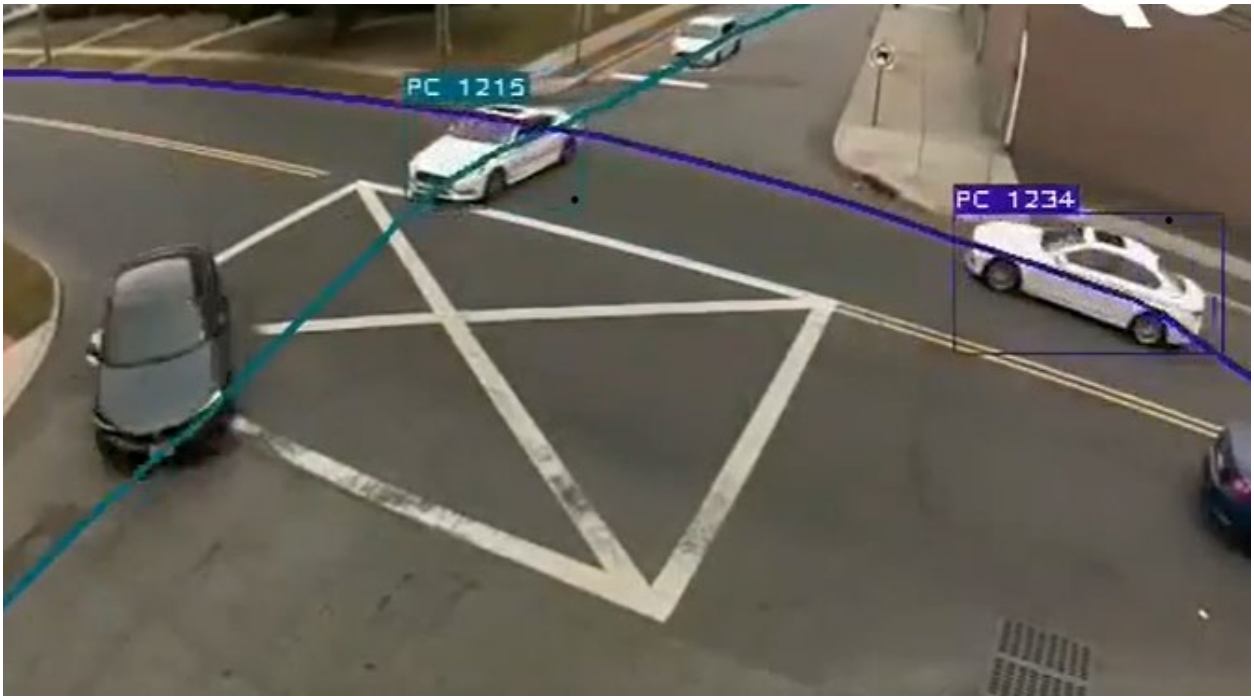


Figure 17 - CR 529 Plainfield Avenue Near Miss Example

An example screenshot of a near-miss identified by Quality Count's DataLens software is provided in **Figure 17**. The number of conflicts by mode (vehicle-vehicle, vehicle-bicycle, vehicle-pedestrian) during the 48-hour observation period (Wednesday, September 18 through Thursday, September 19, 2024) and PET are listed in **Table 7**.

Table 7 - CR 529 Plainfield Avenue and Greenwood Avenue Near Misses by Mode and PET

Conflict Mode	Post-Encroachment Time			Total Conflicts	Total Percentage
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	2	2	82	86	68.0%
Vehicle-Bicycle	2	1	9	12	10.0%
Vehicle-Pedestrian	2	4	22	28	22.0%
Total	*6*	*7*	*113*	*126*	*100%*

Vehicle-vehicle conflicts comprised the majority (68 percent) of the near-misses; however, two-thirds (67 percent) of near-misses with a PET of less than 1.5 seconds involved a vulnerable roadway user. The traffic movement types with the most near-misses with a PET of less than 2.5 seconds involved:

- A westbound through vehicle crossing in front of a southbound through vehicle,
- A westbound through vehicle crossing in front of a northbound through vehicle, and
- A northbound through vehicle crossing in front of a westbound pedestrian on the north leg of the intersection.

Additionally, half (50 percent) of the near-misses with a PET of less than 2.5 seconds involved a vulnerable roadway user. Such near-miss events may be correlated to a lack of marked crosswalks on all legs of the intersection, shown in **Figure 17**, as well as queueing on approach to Route 27 obscuring sightlines between vehicles and vulnerable roadway users.

6.2.3 Amboy Avenue

A total of 74 reported crashes were determined to have occurred in this study area during the study period (2019 through 2023 for vehicle-ped/bike, and 2021 through 2023 for other crashes). **Table 8** details the overrepresented crash types meaning there was a greater observed proportion of crash type along the corridor than that observed countywide. **Table 8**



further shows the three highest (highest, second highest, and third highest) observed crash types, and the three highest observed overrepresented crash types (overrepresentation percentage shown as a negative number if underrepresented). Crash types that are overrepresented along the corridor have the greatest potential for safety improvement (PSI).

Table 8 - CR 653 Amboy Avenue Study Area Highest Overrepresented and Observed Crash Types

Crash Type	Observed Crash Rank	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation	Overrepresented Crash Rank
Pedestrian	Second highest	24.3%	1.9%	22.4%	Highest
Struck Parked Vehicle	Highest	28.4%	8.7%	19.7%	Second highest
Left Turn/U Turn	Not ranked	2.7%	2.3%	0.4%	Third highest
Right Angle	Third highest	16.2%	16.4%	-0.2%	Not ranked

Pedestrian and struck parked vehicle crashes are significantly overrepresented in the study area. The overrepresentation is likely attributed to increased exposure and volume of pedestrians and parked vehicles due to the walkability of the area and presence of on-street parking in the study corridor, respectively. This corridor contains a Central Business District and falls within the NJTPA Complete Streets Conceptualization Pilot program.

An example screenshot of a near-miss identified by Quality Count's DataLens software is provided in **Figure 18**.



Figure 18 - CR 653 Amboy Avenue Near Miss Example

The number of conflicts by mode (vehicle-vehicle, vehicle-bicycle, vehicle-pedestrian) during the 48-hour observation period (Wednesday, September 18 through Thursday, September 19, 2024) and PET are listed in **Table 9**.

Table 9 - CR 653 Amboy Avenue and Waltrous Avenue/Lawrence Street/NJ 440 Off-Ramp Near Misses by Mode and PET

Conflict Mode	Post-Encroachment Time			Number of Conflicts	Percent of Total Conflicts
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	0	6	223	229	57.0%
Vehicle-Bicycle	3	12	37	52	13.0%
Vehicle-Pedestrian	8	12	99	119	30.0%
Total	*11*	*30*	*359*	*400*	*100%*

Vehicle-vehicle conflicts comprised the majority (57 percent) of the near-misses; however, 85 percent of the near-misses with a PET of less than two seconds involved a vulnerable roadway user. The 11 near-misses with a PET of less than 1.5 seconds involved a vulnerable roadway user. The traffic movement type with the most near-misses with a PET of less than two seconds involved a northbound left-turning vehicle turning in front of a southbound through vehicle (as shown in **Figure 18**).

6.2.4 Ernston Road/Washington Road

A total of 303 reported crashes were determined to have occurred in this study area during the study period (2019 through 2023 for vehicle-ped/bike, and 2021 through 2023 for other crashes). **Table 10** details the overrepresented crash types meaning there was a greater observed proportion of crash type along the corridor than that observed countywide. **Table 10** further shows the three highest (highest, second highest, and third highest) observed crash types, and the three highest observed overrepresented crash types (overrepresentation percentage shown as a negative number if underrepresented). Crash types that are overrepresented in the corridor have the greatest potential for safety improvement (PSI).



Table 10 - CR 673 Ernston Road and CR 535 Washington Road Study Area Highest Overrepresented and Observed Crash Types

Crash Type	Observed Crash Rank	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation	Overrepresented Crash Rank
Same Direction - Rear End	Highest	47.2%	33.1%	14.0%	Highest
Left Turn/U Turn	Not ranked	7.9%	2.3%	5.6%	Second highest
Right Angle	Second highest	20.8%	16.4%	4.4%	Third highest
Encroachment	Not ranked	1.7%	0.4%	1.3%	Fourth highest
Same Direction - Sideswipe	Third highest	11.9%	15.8%	-4.0%	Not ranked

Same direction – rear-end crashes are significantly overrepresented in the study area.

Additionally, left-turn/U-turn, right-angle, and encroachment crashes are also overrepresented.

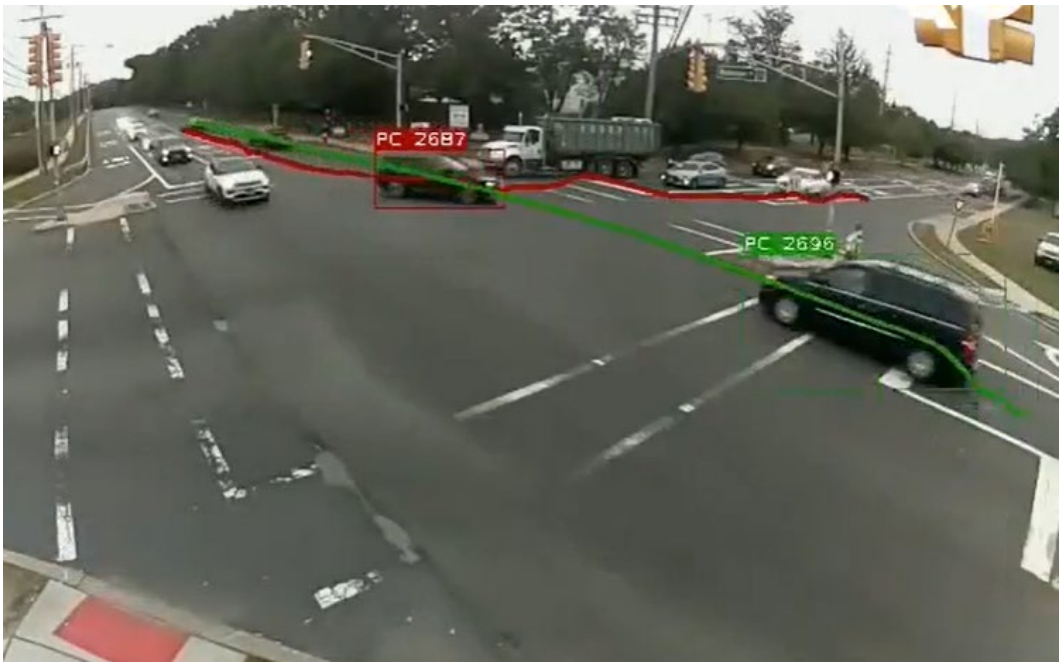


Figure 19 - CR 673 Ernston Road and CR 535 Washington Road Near Miss Example

An example screenshot of a near-miss identified by Quality Count's DataLens software is provided in **Figure 19**.

The number of conflicts by mode (vehicle-vehicle, vehicle-bicycle, vehicle-pedestrian) during the 48-hour observation period (Wednesday, September 18 through Thursday, September 19, 2024) and PET are listed in **Table 11**.

Table 11 - CR 673 Ernston Road and CR 535 Washington Road Near Misses by Mode and PET

Conflict Mode	Post-Encroachment Time			Number of Conflicts	Percent of Total Conflicts
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	1	15	329	345	71.6%
Vehicle-Bicycle	1	3	17	21	4.4%
Vehicle-Pedestrian	2	12	102	116	24.1%
Total	*4*	*30*	*448*	*482*	*100%*

Vehicle-vehicle conflicts comprised the majority (72 percent) of the near-misses; however, 53 percent of the near-misses with a PET of less than two seconds involved a vulnerable roadway user. Seventy-five (75) percent of the near-misses with a PET of than 1.5 seconds involved a vulnerable roadway user.

The traffic movement type with the most near-misses with a PET of less than two seconds involved a westbound left-turning vehicle turning in front of an eastbound through vehicle. Currently, the westbound left turn phasing is protected-permissive. This is a combination of a protected phase, in which a green arrow indicates a protected turn, and a permissive phase, in which the left-turning vehicles must yield to the opposing traffic during the green indication, with a green ball displayed during the permissive window. Permissive phasing results in an increase of such identified conflicts (left-turn vehicles versus opposing through vehicles).

6.2.5 Stelton Road

A total of 456 reported crashes were determined to have occurred in the study area during the study period (2019 through 2023 for vehicle-ped/bike, and 2021 through 2023 for other crashes). **Table 12** details the overrepresented crash types meaning there was a greater observed proportion of crash type along the corridor than that observed countywide. **Table 12** further shows the three highest (highest, second highest, and third highest) observed crash



types, and the three highest observed overrepresented crash types (overrepresentation percentage shown as a negative number if underrepresented). Crash types that are overrepresented in the corridor have the greatest potential for safety improvement (PSI).

Table 12 - CR 529 Stelton Road Study Area Highest Overrepresented and Observed Crash Types

Crash Type	Observed Crash Rank	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation	Overrepresented Crash Rank
Same Direction – Sideswipe	Second highest	27.0%	15.8%	11.1%	Highest
Left Turn/U Turn	Not ranked	11.0%	2.3%	8.6%	Second highest
Encroachment	Not ranked	6.8%	0.4%	6.4%	Third highest
Same Direction – Rear End	Highest	37.9%	33.1%	4.8%	Fourth highest
Right Angle	Third highest	12.3%	16.4%	-4.1%	Not ranked

Same direction – sideswipe and left-turn/U-turn crashes are significantly overrepresented in the study area. Additionally, encroachment and same direction – rear end crashes are also overrepresented.

An example screenshot of a near-miss identified by the Quality Count's DataLens software is provided in **Figure 20**.



Figure 20 - CR 529 Stelton Road Near Miss Example

The number of conflicts by mode (vehicle-vehicle, vehicle-bicycle, vehicle-pedestrian) during the 48-hour observation period (Wednesday, September 18 through Thursday, September 19, 2024) and PET are listed in **Table 13**.

Table 13 - CR 529 Stelton Road and New Brunswick Avenue Near Misses by Mode and PET

Conflict Mode	Post-Encroachment Time			Total Conflicts	Total Percentage
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	2	33	349	384	95.0%
Vehicle-Bicycle	0	0	7	7	2.0%
Vehicle-Pedestrian	3	4	7	14	3.0%
Total	*5*	*37*	*363*	*405*	*100%*

Vehicle-vehicle conflicts comprised the majority (95 percent) of the near-misses; however, vehicle-pedestrian conflicts comprise 60 percent of the near-misses with a PET of less than 1.5 seconds. The conflict movement types with the most near-misses in a PET range of less than two seconds involved an eastbound left-turning vehicle turning in front of a westbound through vehicle, and a southbound left turning vehicle turning in front of a northbound through vehicle. Currently, the eastbound left turn phasing is protected-permissive (a combination of protected phase, in which a green arrow indicates a protected turn, and a permissive phase, in which the left-turning vehicles must yield to the opposing on-coming traffic during the green indication), with a green ball displayed during the permissive window. The New Brunswick Avenue westbound left turn phasing is protected-permissive with one westbound left-turn only lane and a shared westbound though/left-turn lane. This protected-permissive phasing may be a likely cause of the over-representation of the near-misses of westbound left-turning vehicles turning in front of a eastbound through vehicles, due to the fact that westbound lane configuration communicates a protected phasing setup.

6.3 Volume Data

Average Annual Daily Traffic (AADT) data was collected using NJDOT count stations; information on day, month, and year for such collected data is provided within the RSA Reports (**Appendix A**). This count data was further refined using the NJTPA NJRTM-E travel demand model, which is



a macroscopic model that uses land use data and count data to project AADT volumes on regional and local roadways within the North Jersey area.

6.4 Multimodal Data

In order to take stock of alternate modes on each corridor, the project team surveyed the NJTPA's Level of Bicycle Compatibility analysis, NJ TRANSIT's publicly available GIS database for transit routes and stops, and desktop survey (review of aerial, mapping, and street side photography imagery) of sidewalk coverage by corridor. Such information is also covered within the RSA Reports (**Appendix A**).

6.5 Demographic Assessment

Demographic data analyses performed in this study were used to inform the corridor selection process (see the **Corridor Selection Process** section) and to identify local community organizations to coordinate in advance of the public meetings held as part of the RSA study. Furthermore, Limited English Proficiency and native language data were used to identify the necessity of translated materials for such outreach. These strategies are covered in this project's Public Engagement Plan (PEP) so that all residents' needs are met. A summary of public and stakeholder comments from such engagement efforts is covered in the **Public & Stakeholder Input** section. Further information of the demographic analysis is provided within the RSA Reports (**Appendix A**).



7 Road Safety Audits – In-Field Reviews

The RSA for the corridors in the study area were conducted in October of 2024, preceded by a series of Pre-RSA Local Officials Meetings that served as an orientation of the RSA efforts for each corridor and followed by a series of Post-RSA Local Officials Meetings to de-brief RSA observations to the municipal staff of municipalities in which each corridor is located. The RSA efforts involved a roughly two-mile walk along each one-mile corridor, walking the corridor back and forth to discuss safety needs and potential fixes. Municipal involvement during, before, and after the in-field reviews ensured that 1) those most local and familiar with corridor operations provided their valuable input and 2) transportation safety improvement ideations, recommendations, and concepts had the backing and approval of local constituents.

Crucial to the staffing of each in-field review was the interdisciplinary nature of the team (**Figure 21**). From police to council members to transportation management association officials to planners to business administrators to engineers, project leadership gathered a well-rounded team of varying perspectives to minimize any knowledge gap to safety issues. In-field staff were in proper personal protective equipment attire, including high-visibility vests and close-toed shoes.



Figure 21 - Photo of RSA Team

7.1 Pictorial Observations

Presented in the following section are three safety observations that were generally seen along the length of each of the five corridors locations. These observations are in addition to the commonly observed safety concerns of speeding, crosswalk/sidewalk condition, lack of sidewalk coverage/connectivity, non-compliant signage/curb ramps/pedestrian heads/push buttons, drainage, lighting, lack of maintenance, and long distances between crosswalks. The appended RSA reports for each corridor provide further information regarding both corridor-wide safety concerns, as well as location-specific safety concerns.

7.1.1 Ryders Lane

Table 14 - Ryders Lane Observations

Description	Photo Example
Commercial Driveways Commercial driveways along Ryders Lane have no turning restrictions, allowing vehicles to make left turns in and out, in conflict with high-speed on-coming traffic. Turning movements from driveways are further complicated by limited sight lines due to curves and sight obstructions. Additionally, sidewalks are not continuous across several commercial driveways, and driveway apron slopes are not ADA-compliant in some locations.	

Limited Visibility Due to the rolling terrain, various vertical curves along Ryders Lane, particularly north of Tices Lane, affect sight lines and visibility. This is true, especially for turning vehicles and vehicles backing out of the residential driveways along the northbound section of the road.	
Incomplete Sidewalk Network Segments of Ryders Lane completely lack sidewalks, including along the northbound side, with a significant gap from north of the Turnpike to the approach to the Tices Lane intersection, and the southbound side, from north of the Washington Avenue intersection to the northern corridor limits. The Washington Avenue and Tices Lane intersection is a crucial crossing location for pedestrians who wish to walk within the existing sidewalk network. North of Blueberry Drive, pictured on the right, in addition to missing sidewalks, encroachment of utility poles, and the abutting wall narrows the existing space considerably, forcing pedestrians to walk directly adjacent to high-speed traffic and heavy trucks.	

7.1.2 Plainfield Avenue

Table 15 - Plainfield Avenue Observations

Description	Photo Example
Substandard & Noncompliant Curb Ramps Curb ramp conditions varied throughout the corridor. While newly installed at some locations, they were in poor condition in others, lacking detectable warning surfaces, and proper alignment or landing areas, and in various states of disrepair, often due to larger-vehicle related wear and tear.	
Driveways Several businesses have multiple, uncontrolled, and haphazard driveways, with some driveways spanning the entire frontage of the business, creating significant impact and hazards for pedestrians. There is no sidewalk treatment across driveways, resulting in vehicles driving on the sidewalk space to avoid queuing at the intersection. Because several parking lots have no formal driveway entry points, it is difficult for pedestrians to anticipate driver actions. Additionally, the placement of large driveways adjacent to the intersection creates additional conflicts and conflict points (locations where potential vehicle driving paths cross) for drivers that can increase the potential for crash occurrence.	

Wide Lanes The study corridor has two travel lanes except for major intersection approaches and between Route 1 and Jefferson Boulevard, where the roadway has four travel lanes. There is no on-street parking permitted within the study corridor. In some instances, travel lanes are unmarked and almost 20 feet wide, encouraging speeding and unsafe driving maneuvers. Audit participants observed that wide lanes create confusion among drivers who sometimes treat a single lane as two lanes.	

7.1.3 Amboy Avenue

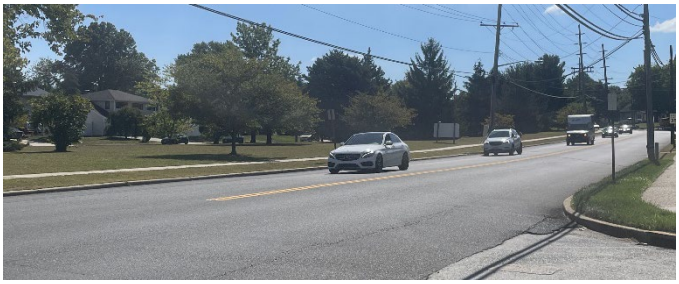
Table 16 - Amboy Avenue Observations

Description	Photo Example
Maintenance/Streetscape Many tree root grates in the commercial portion of the corridor, between Washington Street and Meredith Avenue, need replacement. Tree roots, pictured on the right, have buckled many grates and pavers resulting in uneven terrain and creating tripping hazards. In other locations, informal treatments, like the tree planter boxes pictured below, may be harmful to the tree's health, and should be evaluated for replacement.	 

Illegal Parking Audit participants observed vehicles parked close to intersection corners, driveways, stop signs, and crosswalks, often blocking crosswalks and limiting driver sightlines. Participants also commented that passenger vehicles often occupy loading zones, causing delivery drivers to double-park on Amboy Avenue to make their deliveries. Yellow (no parking allowed) striping near corners was frequently ignored and inconsistently applied throughout the corridor.	
Bicycles and Scooters During the field audit, several bicyclists and scooterists were observed on the corridor, both on the street and on sidewalks, especially during the afternoon high school dismissal. There are no dedicated bike lanes or infrastructure on the corridor and no striping or signage to indicate to vehicles that they should share the roadway with micromobility users. Turning motor vehicles often fail to yield to both pedestrians and cyclists who have the right of way at these crossings.	

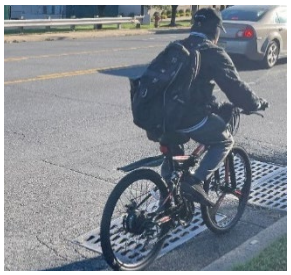
7.1.4 Ernston Road/Washington Road

Table 17 - Ernston Road/Washington Road Observations

Description	Photo Example
Parking Obstructing Sidewalk Space In both the pre-audit field visit and during the RSA, the team observed commercial vehicles parking on the sidewalk, forcing pedestrians to walk on the narrow sidewalk buffer or in the roadway. There is no on-street parking on Ernston Road, and commercial, service, and delivery vehicles lack a usable space to park if providing services to any of the homes along the corridor.	
Lane Striping and Edge Lines Lane Striping and Edge Lines are not provided consistently throughout the corridor. This is a missed opportunity to achieve traffic calming benefits, and to provide desired separation from traffic for pedestrians and cyclists.	
Signal Visibility Signals throughout the corridor lacked retroreflective backplates (flat plates that surround signal heads that provide a highly-contrasting background), which can help improve the visibility of the traffic signal heads.	

7.1.5 Stelton Road

Table 18 - Stelton Road Observations

Description	Photo Example
Shared Use of High-Speed Roadway by Vulnerable Users Bicyclists and scooterists were observed during the audit sharing the roadway with vehicles. Within the study area, Stelton Road is a 40-mph corridor and a designated truck route. Mixing among these travel modes on a high-speed roadway without adequate protection and/or separation poses risks and challenges for vulnerable roadway users.	
Long Pedestrian Crossings Given the Stelton Road multi-lane cross-section, pedestrians must cross a minimum of four travel lanes and at times as wide as seven travel lanes due to the presence of dedicated turning lanes at intersections, medians, channelized turn lanes, and on- and off-ramps at I-287. The intersection of Stelton Road and Centennial Avenue/Hadley Road, for example, (shown right) also includes slip lanes for right turns forcing pedestrians to make multi-staged crossings and sometimes having to wait in narrow refuge areas. These intersections are difficult for older adults and those with mobility issues to navigate. Adequate and compliant crossing times should be confirmed, with multi-stage and/or compatible pedestrian refuge islands as needed.	
Large Turning Radii at Intersections Large turning radii are provided to accommodate larger vehicles making turning movements. However, these large turning radii also allow high-speed right turns inconsistent with the local context, compromising pedestrian safety at crosswalks. The aerial on the right shows the New Brunswick Avenue intersection.	

7.2 Summary of Larger Observations by Corridor

The following section provides a summary of both previously depicted and other wider safety concerns by corridor. Additional details on the recommendations can be found in each RSA report (**Appendix A**).

7.2.1 Ryders Lane in East Brunswick Township and Millstone Borough

Ryders Lane is a vehicle-centric corridor with relatively long block lengths and wide cross-sections. Several issues were observed during the audit, including, but not limited to:

- Sidewalk gaps and limited safe pedestrian crossing locations;
- Reduced signage and striping visibility; and,
- High travel speeds.

Corridor-wide recommendations include, but are not limited to:

- Access management strategies, such as consolidation of driveways;
- Targeted enforcement and traffic calming strategies, such as speed feedback signing and narrowed lanes; and,
- Improved sidewalk coverage for vulnerable roadway users.

7.2.2 Plainfield Avenue in Edison Township

Plainfield Avenue is a largely residential area with relatively low travel speeds. Several issues were observed during the audit, including, but not limited to:

- Sidewalk obstructions and lack of delineation between driveways and sidewalks;
- Limited safe pedestrian crossing locations and long pedestrian crossing distances; and,
- Lack of bicycle facilities.

Corridor-wide recommendations include, but are not limited to:

- Striping of edge lines to induce slower corridor speeds;
- Investigation of bike lane feasibility along the corridor; and,
- Access management strategies, such as consolidation of driveways.

7.2.3 Amboy Avenue in City of Perth Amboy

Amboy Avenue is located within a central business district, with store fronts close to the street, the presence of on-street parking, and amenities (street furniture, bicycle racks, trash cans, etc.). Several issues were observed during the audit, including, but not limited to:

- Sidewalk obstructions and limited marked pedestrian crossings;
- Non-compliant signage and lack of stop signs on side streets; and,
- Long pedestrian crossings without pedestrian signals.

Corridor-wide recommendations include, but are not limited to:

- Daylighting at intersections to preclude parked vehicles from blocking sightlines;
- Investigating the feasibility of bike lanes or sharrows; and,
- Implementing pedestrian-scale lighting to mitigate overrepresentation of nighttime crashes.

7.2.4 Ernston/Washington Roads in Old Bridge Twp and Sayreville Boro

The Ernston Road and Washington Road corridors are close to several schools, including Sayreville High School and Samsel Upper Elementary School located on the north and south ends of the corridor, respectively. Several issues were observed during the audit, including, but not limited to:

- Poor sidewalk conditions and limited marked pedestrian crossings;
- Wide driveway aprons and driveways close to intersections; and,
- High travel speeds.



Corridor-wide recommendations include, but are not limited to:

- Investigation of bike lane feasibility along the corridor;
- Striping of edge lines to induce slower corridor speeds; and,
- Improvement of sidewalk maintenance and provision of sidewalk buffer.

7.2.5 Stelton Road in Piscataway Township and South Plainfield Borough

Stelton Road had the highest volume of traffic and the highest number of total crashes.

Several issues were observed during the audit, including, but not limited to:

- Sidewalk gaps and faded crosswalks;
- Non-compliant signage; and,
- High travel speeds and high-speed turns.

Corridor-wide recommendations include, but are not limited to:

- Incorporation of leading pedestrian intervals to reduce pedestrian crash exposure;
- New “no turn on red” signage to mitigate vehicle-vehicle/pedestrian conflicts; and,
- New and reconstructed sidewalk and buffer zones.



8 Literature Review & Study Recommendations

Post-RSA, the project team examined recommended safety enhancements in the context of relevant County studies and national/state transportation planning and engineering publications. This approach ensures that the recommendations align with local County planning goals while reflecting national best practices. These guiding documents help tailor the RSA improvements to the specific needs and context of the County's roadway network, ensuring consistency with both local objectives and national standards.

8.1 County Studies Reviewed

8.1.1 Vision Zero Action Plan (2022)

The County is committed to eliminating traffic fatalities and serious injuries on roadways in the County by 2040. To that end, the County is working in partnership with municipalities, agencies, and other stakeholders to achieve the following goals: safer roadways, safer speeds, safer roadway users, safer vehicles, post-crash response/care, having a focus on socioeconomic data, developing partnerships, and engaging the community. This prior Vision Zero County study was perhaps the most helpful and had the most tie-ins to these current RSA studies due to the following reasons:

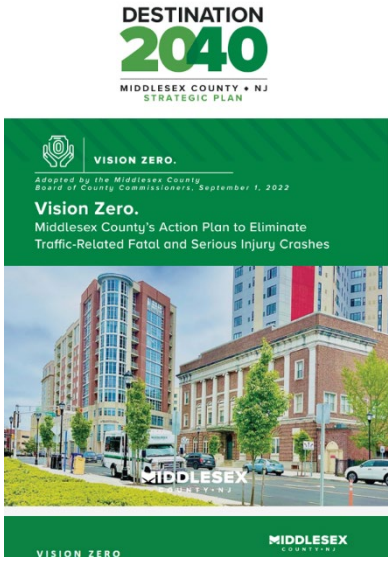


Figure 22 - County VZ Study

- Served as the foundation for pilot RSA programs;
- Provided a list of corridors where populations that may have limited transportation access and mobility challenges were identified ;
- Provided a list of High Injury Network corridors; and,
- Provided a list of crash countermeasure initiatives.

8.1.2 Southern Middlesex County Freight Movement Study (2023)



Figure 23 - County Freight Study

The County undertook this Southern Middlesex County Freight Movement Study to address current and future freight movement issues. Geographically, the study mainly focused on truck facilities being developed with respect to the location of the Turnpike and U.S. Route 130 corridors since infill residential development and conflicts between truck operations and community activity have become a greater concern. While this study did recommend safety improvements and RSA for corridors other than those investigated as part of the RSA study, this study recognizes a larger initiative to identify truck traffic impact on pedestrian and cyclist safety. These improvements mostly apply to the RSA study's Stelton Road corridor recommendations.

8.1.3 Middlesex County Route 529 Corridor Study (2019)

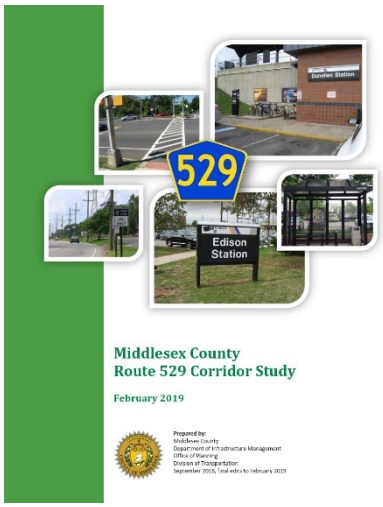


Figure 24 - CR 529 Study

As stated by this study, "[t]he purpose of the County Route 529 Corridor Study [was] to develop recommendations for the improvement of bicycle, pedestrian and transit accommodations and intermodal mobility along the corridor to serve points of attraction along the corridor and in nearby areas now and into the future." This study included demographic analyses, alternative modes (pedestrian/bike) analyses, a review of existing and proposed transit services, a review of land use needs, socioeconomic growth projections, and a summary of engagement efforts. Recommendations from this study were instrumental in the development of crash countermeasure improvements for both sections of the County Route 529 corridor that underwent RSA review:

Plainfield Avenue and Stelton Road. Recommendations that were carried out included upgrades to signal equipment, striping of missing crosswalks, and provisions for on-road bicycle facilities.

8.2 National Publications Reviewed

National and state publications listed below were assessed with the goal of aligning RSA study recommendations with the most common safety initiatives. Major themes from these publications included both infrastructure- and policy-base recommendations. These reviews helped the team identify proven concepts and apply them to each study corridor.

- New Jersey Pedestrian and Bicycle Resource Center video library, 2025 (continually updated)
- Cross County Connection TMA video library, 2025 (continually updated)
- NJDOT Technology Transfer video library, 2025 (continually updated)
- NJDOT Safe Routes to School video library, 2025 (continually updated)
- Proven Safety Countermeasures, FHWA, 2021
- 2017 State of New Jersey Complete Streets Design Guide, NJDOT, 2017
- Small Town and Rural Multimodal Networks, FHWA, 2016
- Separated Bike Lane Planning and Design Guide, FHWA, 2015
- New Jersey School Zone Design Guide, NJDOT, 2014
- Urban Bikeway Design Guide, National Association of City Transportation Officials, 2014
- Urban Street Design Guide, National Association of City Transportation Officials, 2012

8.3 Recommendations by Corridor

Hundreds of transportation safety improvement recommendations were made on the five corridors that underwent RSA review. Local officials meetings and discussions with NJDOT's Bureau of Traffic Engineering following the RSAs were held to build consensus for each improvement, especially with stakeholders responsible for constructing, operating, and maintaining this infrastructure. This section of the report seeks to provide an overview of recommendations by corridor, summarizing general corridor-wide recommendations. Implementation Matrices covering the hundreds of corridor-wide and location-specific recommendations are detailed in Chapter 6, Findings & Recommendations, within the RSA



Reports included in **Appendix A** (Page 99 of the Appendix for Ryders Lane, Page 202 of the Appendix for Plainfield Avenue, Page 328 of the Appendix for Amboy Avenue, Page 446 of the Appendix for Ernston Road, and Page 570 of the Appendix for Stelton Road) to this final report. The figures in this section provide a high-level summary while detailed concept plans for improvements are appended to the RSA reports.

8.3.1 Ryders Lane in East Brunswick Township and Millstone Borough

Corridor-wide recommendations focused on implementing traffic calming techniques and enhancing overall travel safety. These include conducting corridor speed study to determine key locations for traffic calming devices (speed feedback and lane narrowing as examples), striping of edge/shoulder lines, and providing a buffer area between curb and sidewalk. Other corridor-wide safety improvements include lighting analyses/upgrades, sidewalk repair/replacement/construction, curb ramp reconstruction for ADA compliance, improve/consolidate driveway apron areas, conduct a signage inventory/audit, and install/refresh pavement markings. **Figure 25** illustrates recommended safety improvements at the Tices Lane intersection where the study team performed near-miss analysis. Improvements recommended to address near-miss incidents observed at this location include installation of retroreflective signal backplates (flat plates that surround signal heads that provide a highly-contrasting background), revision of signal timing for the provision of a protected-only southbound left-turn, and installation of a curbed median on the southbound approach to add protection between turning movements and through traffic.

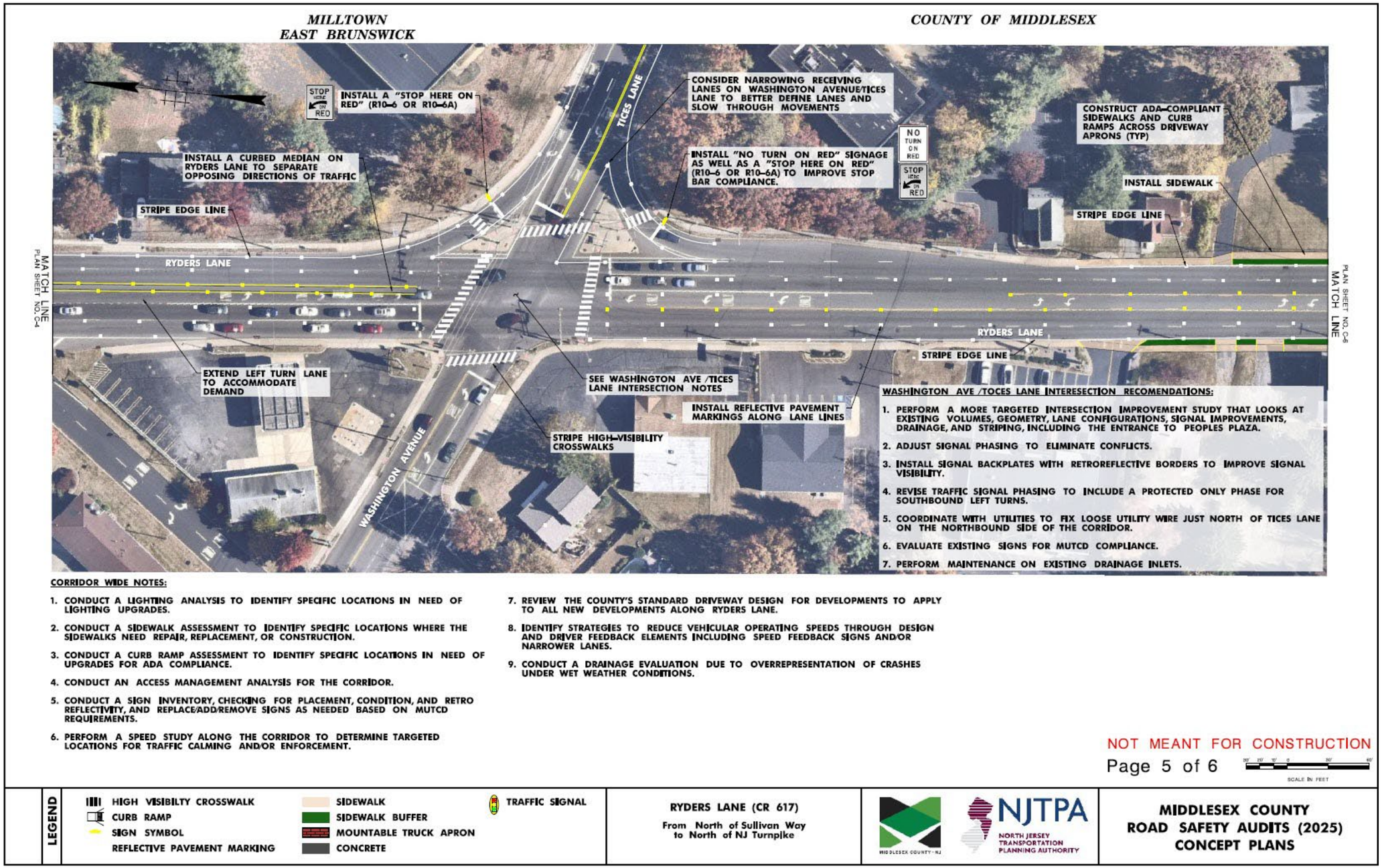
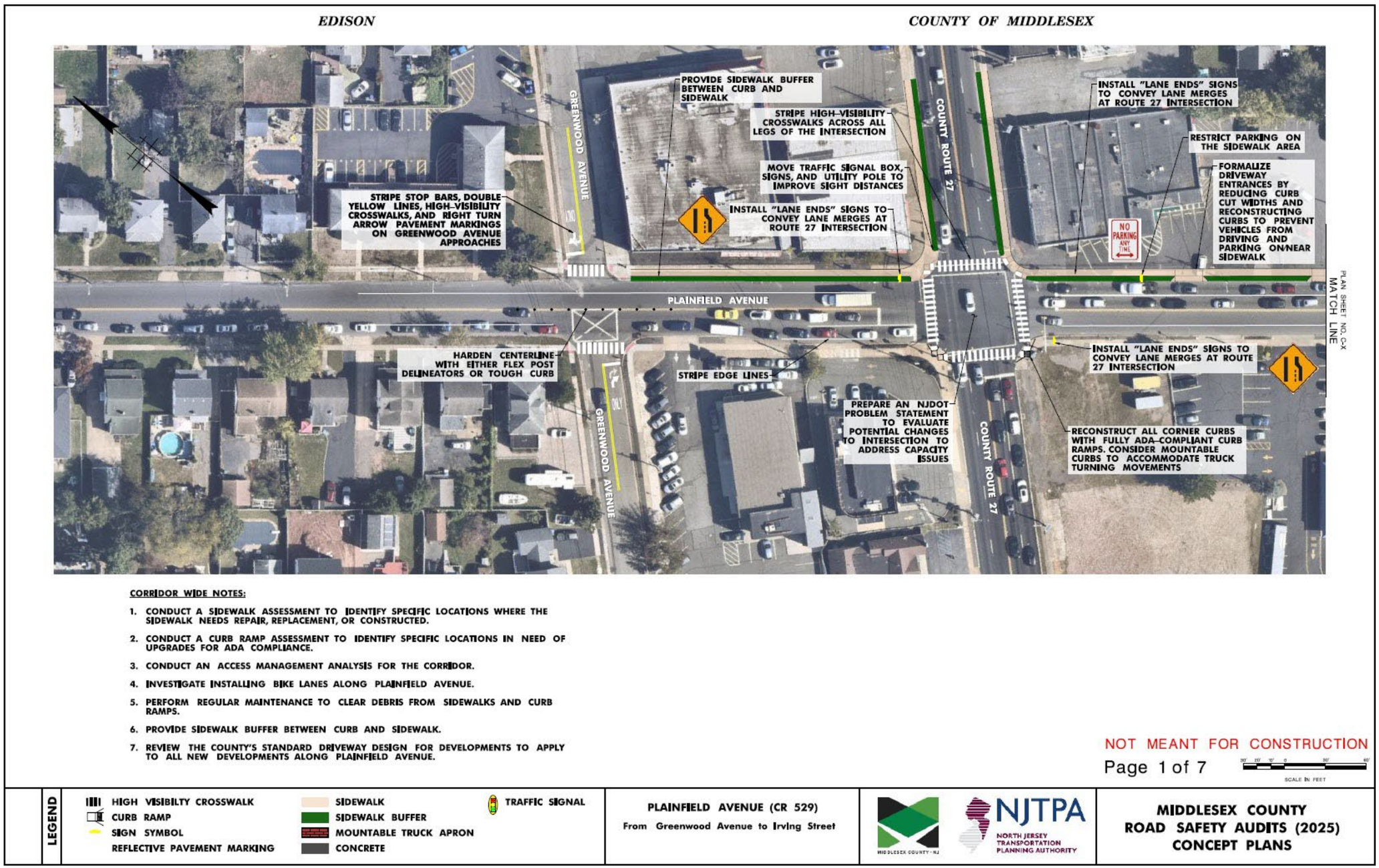


Figure 25 - Ryders Lane Safety Recommendations at Tices Lane (N.T.S.)

8.3.2 Plainfield Avenue in Edison Township

Corridor-wide recommendations include sidewalk and curb ramp maintenance/assessments/ audits/reconstruction, improvement/consolidation of driveway apron locations, addition of sidewalk buffers and edge lines to further slow speeds, and investigating the feasibility of bike lanes along the corridor. Depicted in **Figure 26** are recommended safety improvements at the Greenwood Avenue intersection, where the project team performed our near-miss analysis. Vehicle-vehicle and vehicle-pedestrian/bike near-misses would be addressed via centerline hardening, reducing queueing on Plainfield Avenue via NJDOT capacity improvements, and re-striping of crosswalks and turning restrictions.





CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

NOT MEANT FOR CONSTRUCTION

Page 1 of 7

SCALE IN FEET

LEGEND

HIGH VISIBILTY CROSSWALK
CURB RAMP
SIGN SYMBOL
REFLECTIVE PAVEMENT MARKING
SIDEWALK
SIDEWALK BUFFER
MOUNTABLE TRUCK APRON
CONCRETE
TRAFFIC SIGNAL

PLAINFIELD AVENUE (CR 529)
From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY, NJ
NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

Figure 26 - Plainfield Avenue Safety Recommendations at Greenwood Avenue/Route 27 (N.T.S.)

8.3.3 Amboy Avenue in City of Perth Amboy

Amboy Avenue has a Central Business District and would benefit from a Complete Streets approach. This area falls within the NJTPA Complete Streets Conceptualization pilot program that is advancing complete streets approaches. Corridor-wide improvements include addition of curb extensions (with RRFBs at unsignalized locations) to address sightline issues, sidewalk and curb ramp assessment/reconstruction, sign/striping/traffic signal inventory and audit for MUTCD compliance, investigation of the feasibility of bike lanes and sharrows, installing pedestrian-scale lighting upgrades, improving corridor access management/apron treatments, and emergency preemption equipment upgrades at signalized locations. Depicted in **Figure 27** are recommended safety improvements at the intersections with the Route 440 frontage roadways (Waltrous Avenue and Pfeiffer Boulevard) where we performed our near-miss analysis. Vehicle-vehicle and vehicle-pedestrian/bike near-misses would be addressed via protected-permissive phasing for northbound and southbound left-turn movements, Leading Pedestrian Intervals (where lag left phasing can be done), narrowing of the westbound receiving leg of Waltrous Avenue, installation of pedestrian countdown signal heads, striping of high-visibility crosswalks, and pursuit of Safe Routes to School funding opportunities to enhance student travel to Perth Amboy High School.



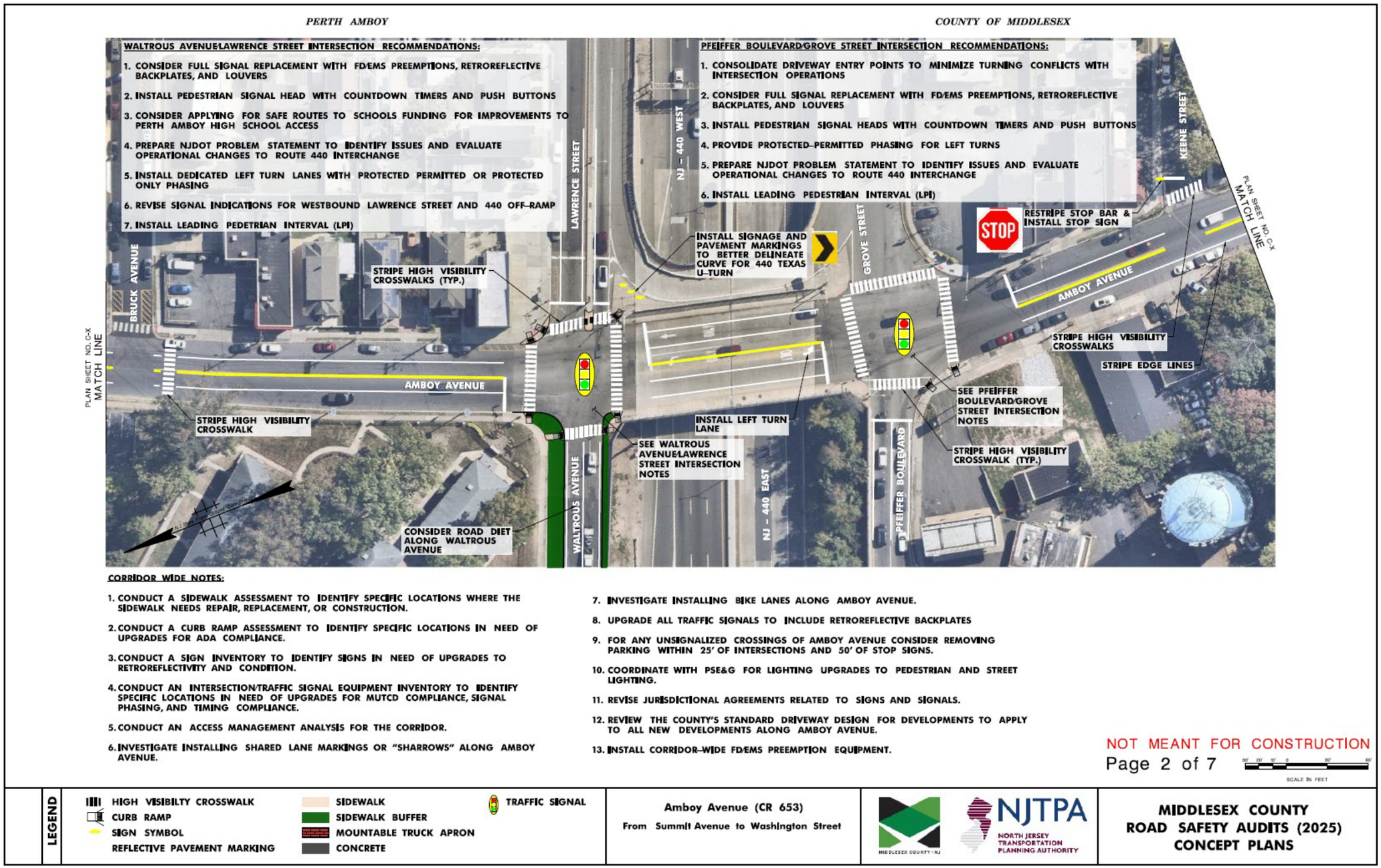


Figure 27 - Amboy Avenue Safety Recommendations at Route 440 Interchange (N.T.S.)

In FY 2026 the NJTPA will be conducting a consultant-supported planning study to develop conceptual improvements for the Hall Avenue neighborhood of Perth Amboy using the Complete Streets approach to address community goals for safety, accessibility, and equitable mobility for all road users. Hall Avenue between Amboy Avenue and State Street provides an important east-west connection across the North Jersey Coast Line and CSX freight railroad, linking the Harbortown residential development with schools and the rest of the City. The purpose of the study is to inform City decision making regarding future street improvements in the study area. Amboy Avenue forms the western boundary of the anticipated study area, so the recommendations of the Amboy Avenue RSA will be a critical input to this study.

8.3.4 Ernston/Washington Roads in Old Bridge Twp and Sayreville Boro

Proposed corridor-wide crash countermeasure solutions include sidewalk and curb ramp assessment/reconstruction, lighting assessments, signing inventory, installation of edge lines (with bike lanes where possible), addition of sidewalk buffer areas, and improvement of driveway apron areas. Depicted in **Figure 28** are recommended safety improvements at the intersection of Ernston Road & Washington Road where the near-miss analysis was performed. Near-miss vehicle-vehicle and vehicle-pedestrian/bike near-misses would be addressed via striping of high-visibility crosswalks, investigation of truck turning movements to see if curb return radii can be reduced, and investigation of capacity to see if channelized right-turn islands can be removed. Due to the significant amount of student pedestrian activity observed on near-miss videos near Sayreville High School, pursuit of Safe Routes to School initiatives is recommended to construct these and other improvements shown on **Figure 28**, including RRFBs for crosswalks in front of the school.

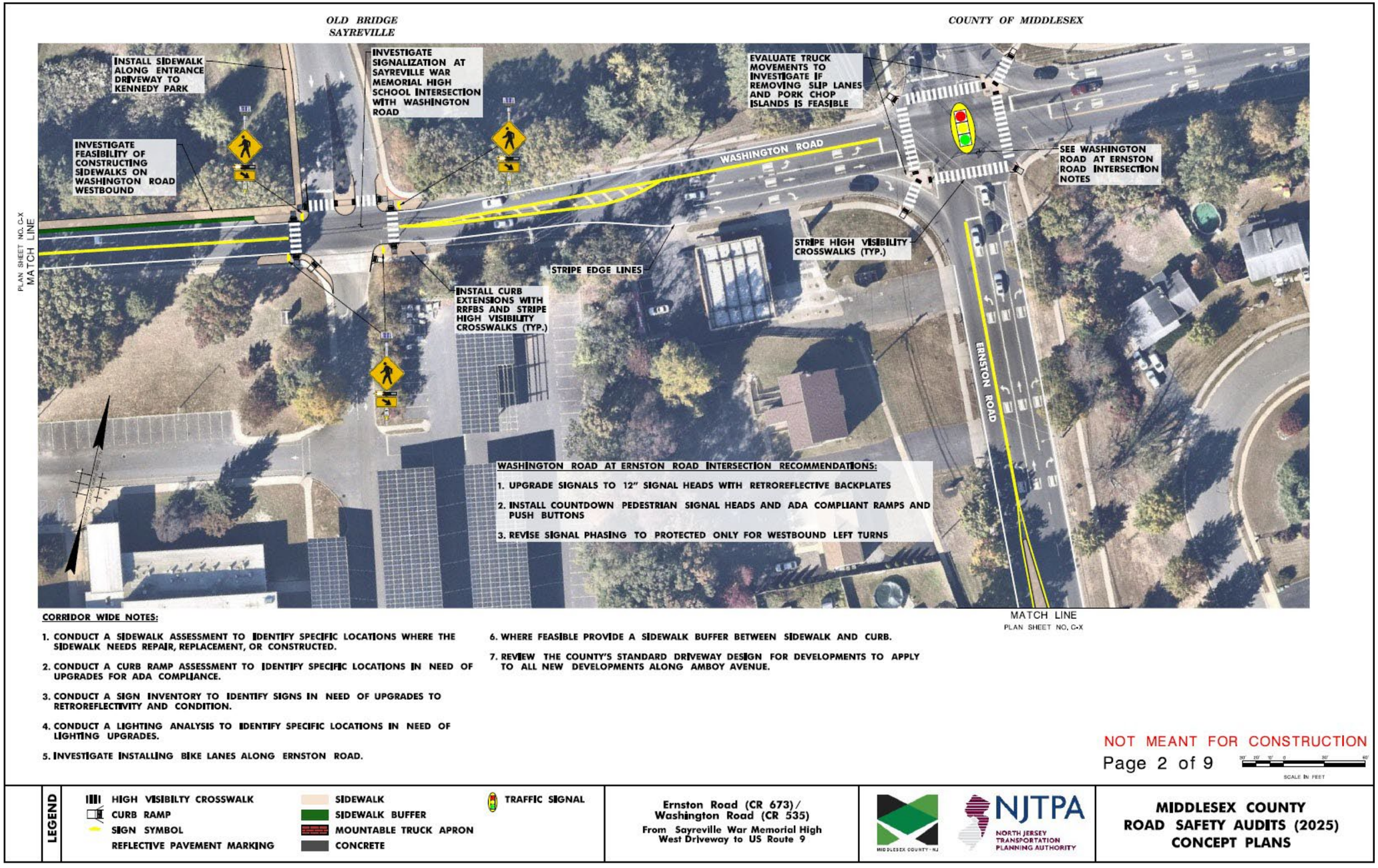
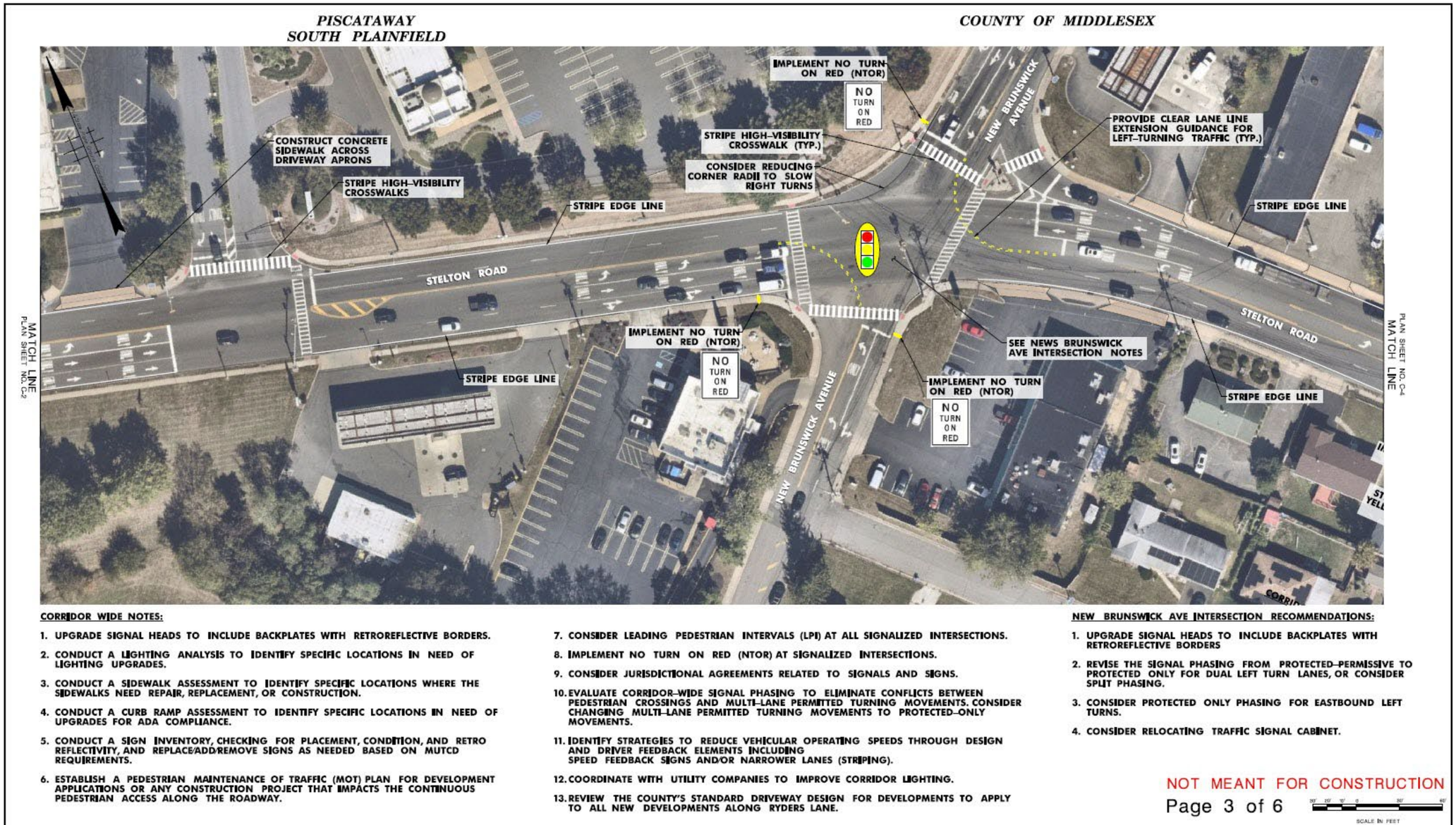


Figure 28 - Safety Recommendations at Intersection of Ernston Road & Washington Road (N.T.S.)

8.3.5 Stelton Road in Piscataway Township and South Plainfield Borough

Corridor-wide improvements include changes in signal timing/phasing to incorporate Leading Pedestrian Intervals and permissive left-turns where possible, evaluation of the at-grade crossing and associated signal phasing at the northern end of the corridor, employing traffic calming techniques, addition of signal backplates for increased visibility, improvement of lighting in certain areas, standardization of curb ramps and driveway aprons, and implementation of No Turn on Red restrictions where capacity allows. Depicted in **Figure 29** are recommended safety improvements at the New Brunswick Avenue intersection where we performed our near-miss analysis. Vehicle-vehicle and vehicle-pedestrian/bike near-misses would be addressed via high-visibility crosswalks, reduction of curb return radii, No Turn on Red restrictions, signal timing/phasing revisions, and lane line extensions.





CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR–WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI–LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI–LANE PERMITTED TURNING MOVEMENTS TO PROTECTED–ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

NEW BRUNSWICK AVE INTERSECTION RECOMMENDATIONS:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS
2. REVISE THE SIGNAL PHASING FROM PROTECTED–PERMISSIVE TO PROTECTED ONLY FOR DUAL LEFT TURN LANES, OR CONSIDER SPLIT PHASING.
3. CONSIDER PROTECTED ONLY PHASING FOR EASTBOUND LEFT TURNS.
4. CONSIDER RELOCATING TRAFFIC SIGNAL CABINET.

NOT MEANT FOR CONSTRUCTION

Page 3 of 6

SCALE IN FEET

LEGEND

HIGH VISIBILTY CROSSWALK
CURB RAMP
SIGN SYMBOL
REFLECTIVE PAVEMENT MARKING
SIDEWALK
SIDEWALK BUFFER
MOUNTABLE TRUCK APRON
CONCRETE
TRAFFIC SIGNAL

STELTON ROAD (CR 529)
From S. Washington Ave
to Centennial Ave/Hadley Rd

MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY
ROAD SAFETY AUDITS (2025)
CONCEPT PLANS

Figure 29 - Stelton Road Safety Recommendations at New Brunswick Avenue (N.T.S.)

9 Next Steps

With the recommendations outlined in this study, Middlesex County is well-positioned to advance the project development process for safety improvements. Continued collaboration between partner municipalities and various stakeholder groups (police, transit, state agencies, etc.) will be invaluable in implementing the specific strategies discussed within these study materials. Our Implementation Matrices in the RSA Reports (**Appendix A**) is meant to kick off these collaborative conversations, defining who is responsible for what infrastructure, and arms these conversations with critical information on relative cost and timeline. For low-cost, short-term improvements coded in the Implementation Matrices, such as signing of "No Turn on Red restrictions," the County can initiate implementation of such safety enhancements with Public Works staff. These actions would represent the County's pipeline of short-term engineering and planning projects.

Conversely, high-cost, long-term improvements may be well suited for targeted grant opportunities, such as the following:

1. Safe Streets and Roads for All- Implementation funding program for corridors with significant FSI (fatal and serious injury) crash history, administered by USDOT;
2. Safe Routes to School Design program administered by NJDOT;
3. Local Safety Engineering Assistance Program for County corridor-wide improvements, administered by NJTPA; and,
4. Transportation Alternatives Program for active mode improvements, administered by NJDOT.

Based on an initial, cursory investigation of funding program suitability for each of the five corridors investigated in this study, the project team has identified which of the five preceding funding programs mentioned would be suitable for each corridor in **Table 19**.



Looking ahead, Middlesex County remains firmly committed to expanding its safety infrastructure—building safer sidewalks, crosswalks, intersections, and roadways for all users. This RSA study serves as a critical foundation, shaping a long-term vision of safer mobility and setting the course for meaningful, lasting change on County roadways.

Table 19 - Funding Program Suitability by Corridor

Funding Program	Stelton Road	Plainfield Avenue	Amboy Avenue	Ryders Lane	Ernston Road
SS4A Program for Corridors with Significant FSI Crash History		✓	✓	✓	
Work with Municipality for Safe Routes to School Improvements		✓	✓		✓
Graduate into NJTPA's LSEAP Program for Higher Cost Corridors	✓	✓	✓	✓	
NJDOT's Transportation Alternatives Program for Bike Lanes		✓	✓		✓

Appendices

Appendix A Road Safety Audit Reports

Middlesex County

Road Safety Audit Report



Ryders Lane (CR 617) Milltown and East Brunswick

From North of NJ Turnpike to North of Sullivan Way
MP 4.90-5.90

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY • NJ

April 2025

TABLE OF CONTENTS

Executive Summary ..... **iv**

1 INTRODUCTION **1**

1.1 Project Need 1
1.2 Site Selection 2
1.3 What is a Road Safety Audit (RSA)? 4

2 EXISTING CONDITIONS **5**

2.1 Study Location 5
2.2 Land Use 5
2.3 Community Profile 7
2.4 Roadway Characteristics 9
2.5 Traffic Volumes 9
2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations 9
2.7 Transit Service 9
2.8 Stakeholders 9
2.9 Outreach Efforts 10

3 CRASH FINDINGS **11**

3.1 Crash Types 11
3.2 Crash Severity 13
3.3 Temporal Trends 13
3.4 Roadway Surface & Lighting Conditions 15
3.5 Near Miss Analysis 16
3.6 Crash and Near Miss Data Finding Summary 17

4 RSA LOGISTICS **18**

4.1 Audit Schedule 18
4.2 Audit Participants 18

5 IDENTIFIED ISSUES & OBSERVATIONS **19**

5.1 Corridor-wide 19
5.2 Location-specific 25

6 FINDINGS & RECOMMENDATIONS **28**

6.1 Implementation Matrix (Recommendations) 28
6.2 Potential Funding Sources 34
6.3 Conceptual Plan 37

7 CONCLUSION **38**

LIST OF TABLES

Table 1. Equity Analysis Factors for Milltown and East Brunswick and Middlesex County.. 7
Table 2. Ryders Lane (CR 617) top overrepresented and reported crash types. 12
Table 3. Ryders Lane (CR 617) crashes by severity. 13
Table 4. Ryders Lane (CR 617) crashes by roadway surface conditions. 15
Table 5. Ryders Lane (CR 617) crashes by light conditions. 15
Table 6. Ryders Lane (CR 617) intersection near misses by mode and PET. 16
Table 7. Implementation Matrix legend 28
Table 8. Ryders Lane recommendations. 29

LIST OF FIGURES

Figure 1. Study area land use map. iv
Figure 2. Map of RSA corridors. 3
Figure 3. Eight-Step RSA Process, adapted from the FHWA. 4
Figure 4. Ryders Lane corridor land use map. 6
Figure 5. Ryders Lane equity analysis map. 8
Figure 6. Ryders Lane (CR 617) crashes by type. 12
Figure 7. Ryders Lane (CR 617) crashes by month of the year. 13
Figure 8. Ryders Lane (CR 617) crashes by day of the week. 14
Figure 9. Ryders Lane (CR 617) crashes by time of day. 14
Figure 10. Ryders Lane (CR 617) near-miss example. 16

APPENDICES

Appendix A – Straight Line Diagram
Appendix B – Traffic Data
Appendix C – Crash Diagram
Appendix D – Local Officials, Pre-Audit Meeting Presentation
Appendix E – Audit Materials
Appendix F – Audit Team
Appendix G – Conceptual Plan

EXECUTIVE SUMMARY

The Middlesex County Road Safety Audits (RSAs) were conducted on five one-mile-long County roadway corridors throughout the month of October 2024, advancing the County's Vision Zero Action Plan goal to address and reduce serious injuries and fatalities. The study was funded through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), which assists subregions in refining and developing transportation improvement strategies consistent with the Long Range Transportation Plan (LRTP) and regional planning goals.

The five corridors were selected using several factors, including crash data analysis, equity factors, and prior studies. The audits followed the Federal Highway Administration's (FHWA) RSA process, identifying opportunities for safety improvements for all road users. Ryders Lane (County Route 617) in Milltown and East Brunswick was one of the five corridors selected for the audits. The corridor extends from a point just north of the New Jersey Turnpike overpass (MP 4.90) to north of Sullivan Way (MP 5.90).

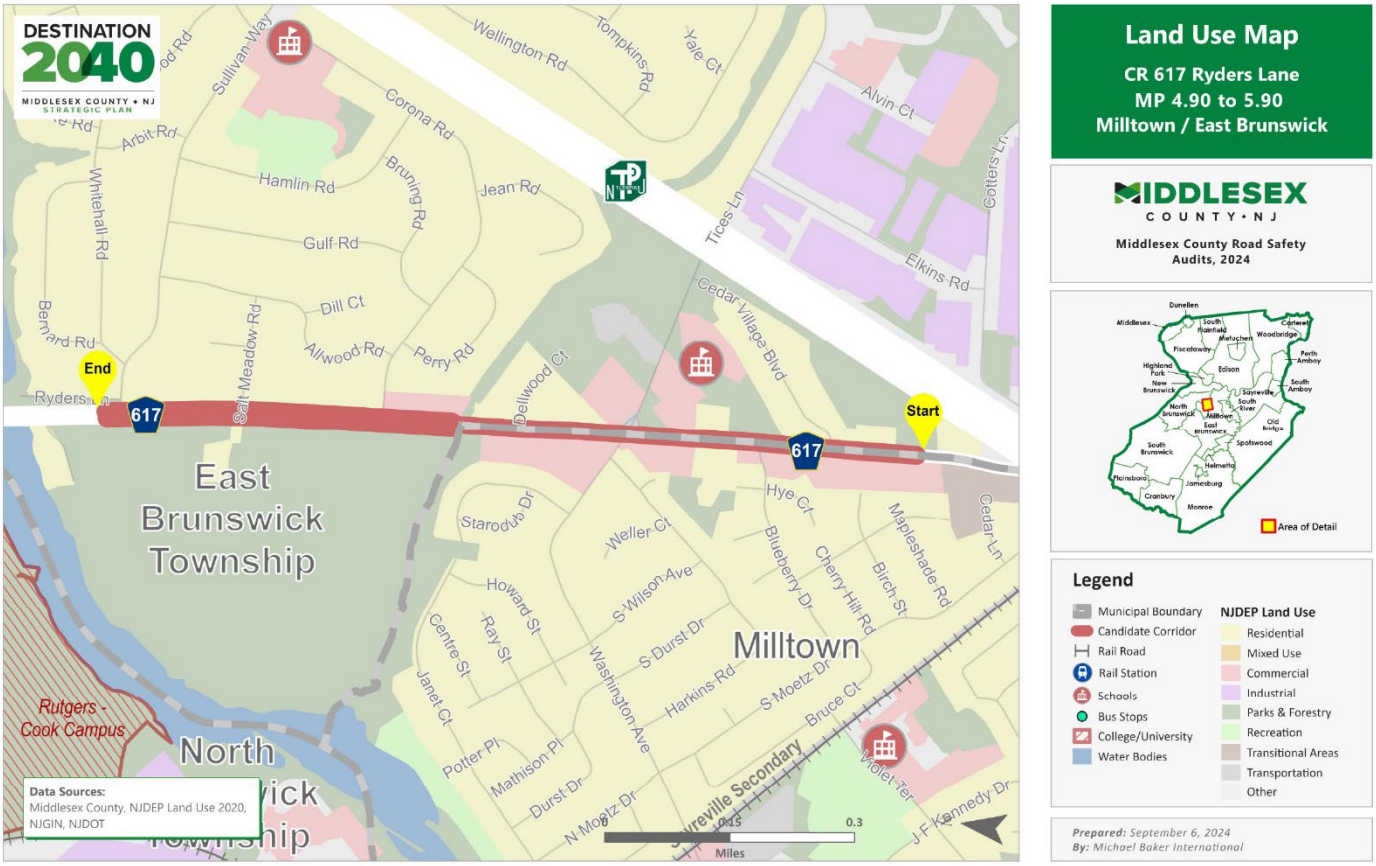


Figure 1. Study area land use map.

The Ryders Lane pre-audit briefing took place at the Local Officials Meeting via Microsoft Teams on October 9th, 2024. The field visit and post-audit debrief were conducted on Tuesday, October 22nd, 2024. Participants included Middlesex County staff, the consultant team, municipal staff, and representatives from the NJTPA, Keep Middlesex Moving Transportation Management Association (KMM) and the Alan M. Voorhees Transportation Center (VTC). Participants were given an RSA prompt list to help the team identify and document any potential safety issues and to facilitate discussion of safety concerns and potential improvements. Following the in-person field audit, the team convened at the Wilkin & Guttenplan Office, located by the Ryders Lane and Tices Lane intersection, to discuss and record observations.

The recommendations in this memo (Section 6 - Findings & Recommendations) are based on existing conditions analysis, field observations, post-audit discussion, and County staff comments. Recommendations include:

- Striping edge lines to define and narrow travel lanes and reduce speeds;
- Installing reflective pavement markings to improve visibility, which was noted by audit participants as an issue during nighttime;
- Constructing sidewalk on the northbound side of Ryders Lane, between Cedar Village Boulevard and Blueberry Drive;
- Installing a curbed median on Ryders Lane to separate opposing directions of traffic to reduce the risk of high-speed head-on crashes; and
- Performing an intersection improvement study at Ryders Lane and Sullivan Way to consider revising the existing intersection reconfiguration to a roundabout or other alternative to mitigate left turn conflicts.

The recommendations in this report are a starting point in reimagining a safer corridor, reflecting the ideas and suggestions of the RSA team, and should be developed further. Roadway recommendations should be evaluated and designed for the roadway context by Middlesex County or the appropriate jurisdiction according to applicable codes, standards, and best practices. Recommendations for education or enforcement strategies will need to be developed further by appropriate entities.

1 INTRODUCTION

Through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), Middlesex County conducted Road Safety Audits (RSAs) on five one-mile-long roadway corridors throughout the County, identifying potential safety issues for all road users and outlining strategies to mitigate crash occurrence and severity. RSAs are in alignment with the County's Vision Zero Action Plan initiative. The process followed the Federal Highway Administration's (FHWA) framework for RSAs. One of the corridors selected for the RSA was County Route 617, Ryders Lane (MP 4.90-5.90), in Milltown and East Brunswick.

This RSA report provides background information on the corridor, including the basis for corridor selection and other pertinent data such as surrounding context and land uses, multimodal inventory, crash data, crash analysis, summaries of the pre- and post-audit meetings, and key issues identified during the audit. The in-person field audit observations and the corridor data findings were used to generate a series of safety recommendations. Recommendations are presented in this report within an implementation matrix, which consists of estimated implementation timeframes, responsible agency/agencies, order of magnitude implementation costs, implementation priority, and available funding sources.

The RSA report also includes a conceptual "sketch" or "planning-level" plan showing the recommended physical design elements for the corridor. The plan illustrates potential future conditions for Ryders Lane based on the RSA recommendations. Please note that implementing the recommendations outlined in this report requires professional engineering services to prepare the applicable design and construction documents.

1.1 Project Need

In 2022, Middlesex County adopted the Vision Zero Action Plan to reduce fatal and serious injury crashes on County roads. The Plan uses the Safe System framework, proposing actions that support each of the Safe System objectives: safer people, safer roads, safer vehicles, safer speeds, and post-crash care. Road safety audits are an action item in the Safe Roads category of the Action Plan's projects and strategies.

Two previous RSAs in Middlesex County— Livingston Avenue and the New Brunswick Train Station— have resulted in significant safety improvements in the City of New Brunswick, including a road diet and redesign of Livingston Avenue. Similarly, the County's goal is to conduct these additional five RSAs on County roadways to identify safety recommendations in pursuit of the County's Vision Zero pledge to eliminate traffic fatalities and serious injuries within the County by 2040.

1.2 Site Selection

County Route 617, Ryders Lane corridor was selected from a list of twenty candidate corridors through a comprehensive analysis of the top crash segments for the County from NJTPA's Network Screening Lists, utilizing crash data, prior studies, and equity data as a basis for comparison and selection. The twenty candidate corridors were then narrowed to ten locations, eliminating the corridors with recent construction work, currently undergoing a study or design project. Finally, the five RSA locations were picked based on input from the Technical Advisory Committee (TAC) and discussions with the County's Department of Transportation, consisting of the Offices of Engineering and Planning. The following corridors, shown in **Figure 2** were selected for the RSA study:

1. Stelton Road (CR 529), MP 4.17-5.17, in Piscataway and South Plainfield
2. Plainfield Avenue (CR 529), MP 0.10-1.10, in Edison
3. Amboy Avenue (CR 653), MP 0.08-1.08, in Perth Amboy
4. **Ryders Lane (CR 617), MP 4.90-5.90, in Milltown and East Brunswick**
5. Ernston Road (CR 673), MP 0.00-1.00, and Washington Road (CR 535), MP 30.27-30.50, in Sayreville and Old Bridge

Ryders Lane was selected due to the high crash frequency and severity along the corridor. On NJTPA's 2023 Screening Lists, Ryders Lane ranks 3rd on the Middlesex County Roadway Corridors List, and 2nd on the Intersections List (Ryders Lane and Washington Avenue).

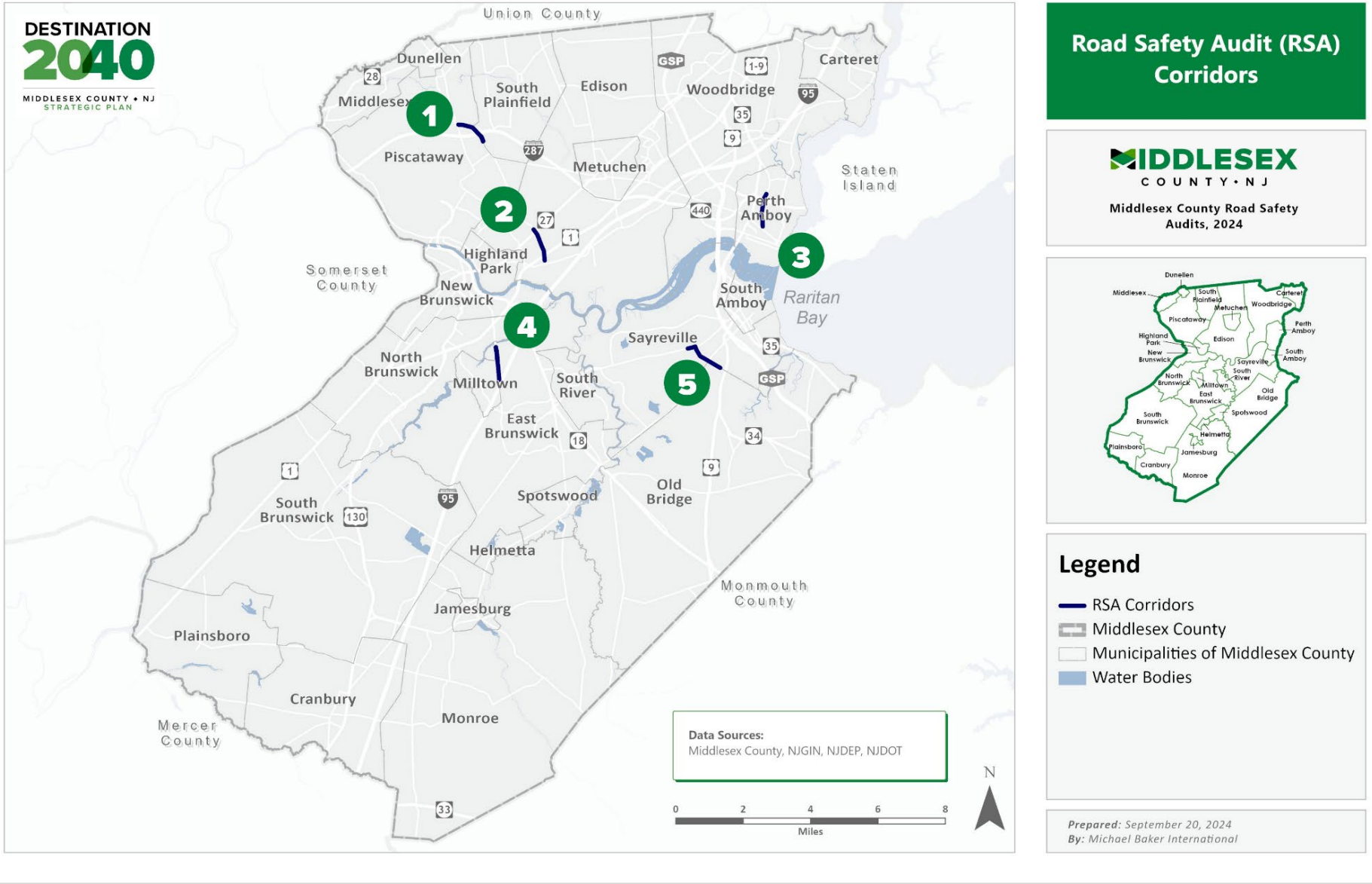


Figure 2. Map of RSA corridors.

1.3 What is a Road Safety Audit (RSA)?

FHWA defines an RSA as the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for safety improvements for all road users.

The independent multidisciplinary team may include professionals from various disciplines, including engineering, planning, emergency services, law enforcement, public works, and advocacy staff.

RSAs are one of the FHWA's Proven Safety Countermeasures[1] (PSC), which include strategies deployed to reduce roadway fatalities and serious injuries. The RSA process has been demonstrated to result in a 10 to 60 percent reduction in total crashes for the audit location, due to safety recommendations and implementation of safer designs. See **Figure 3** for the eight steps for conducting an RSA.



Figure 3. Eight-Step RSA Process, adapted from the FHWA.

RSAs consider all road users by assessing existing and potential safety concerns on the corridor or intersection for all modes of transportation. The RSA process then recommends strategies to eliminate or mitigate the identified safety concerns. RSAs can be performed at any stage of a project - from planning to construction - although they are encouraged early in the process to allow for ample opportunities to incorporate recommendations into conceptual designs. RSAs produce a formal report that requires a formal response from the road owner.

[1] https://highways.dot.gov/safety/data-analysis-tools/rsa/road-safety-audits-rsa, accessed December 4, 2024

2 EXISTING CONDITIONS

2.1 Study Location

The Ryders Lane (CR 617) study area is a one-mile-long corridor from north of the New Jersey Turnpike (MP 4.90) to just north of Sullivan Way (MP 5.90), in Milltown and East Brunswick. A Straight-Line Diagram (SLD) of Ryders Lane is provided in **Appendix A**. The corridor begins north of the NJ Turnpike and terminates less than one mile south of Route 1. Ryders Lane runs roughly parallel to Route 18.

2.2 Land Use

Land uses along the Ryders Lane corridor are primarily commercial and residential (**Figure 4**). Commercial areas are located on the southern portion of the corridor, with the northern portion, north of Corona Road, primarily residential, with the Rutgers Farms directly on the corridor on the southbound side. There is an industrial cluster to the southeast of the corridor and a big-box retail development south of the NJ Turnpike.

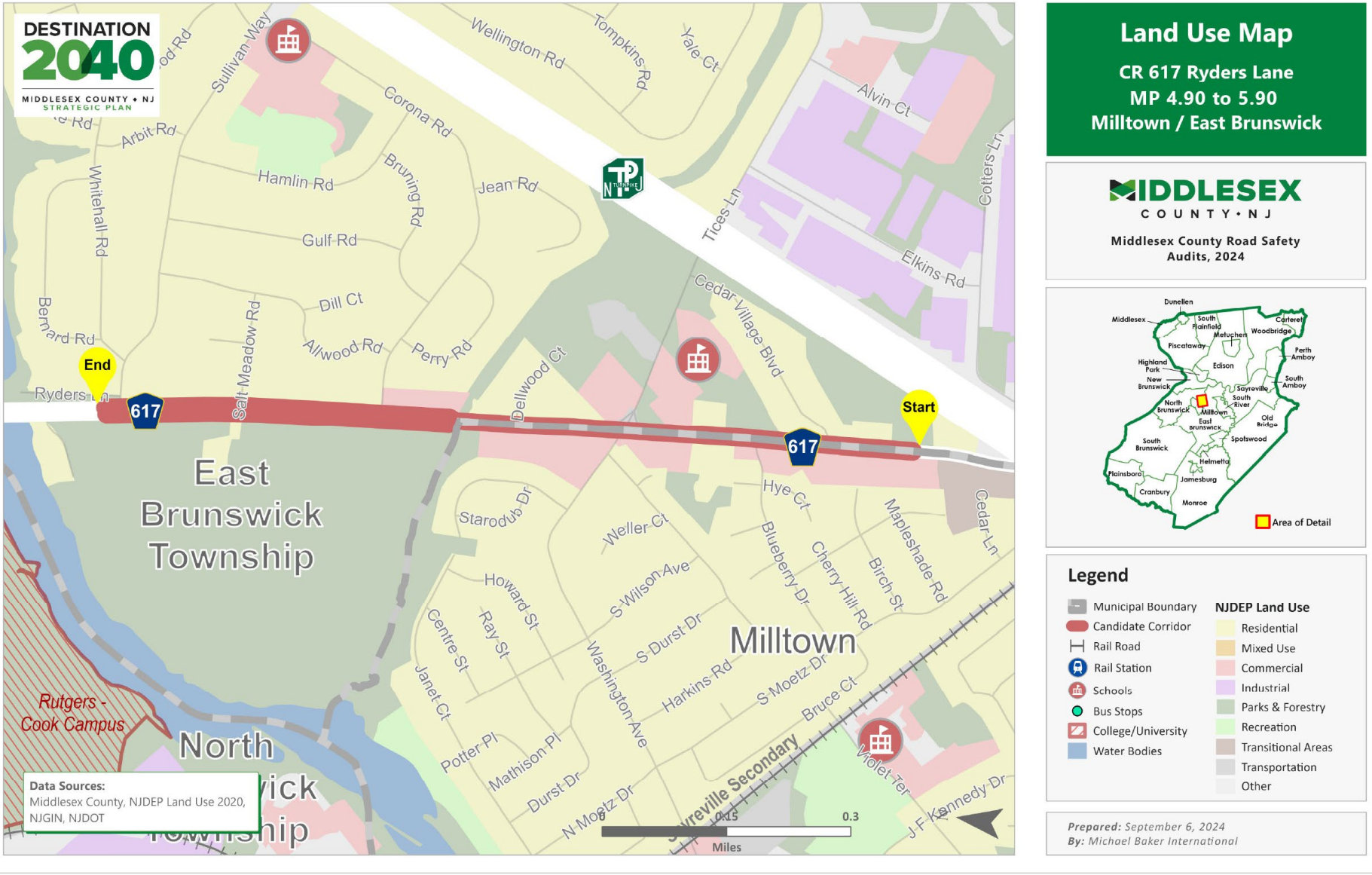


Figure 4. Ryders Lane corridor land use map.

2.3 Community Profile

Demographic and socioeconomic data from the American Community Survey (ACS) were used to identify Environmental Justice populations while also providing points of comparison to the County as a whole, based on NJTPA's Equity Analysis methodology. Data from the 2018-2022 ACS was sourced from the U.S. Census for Milltown, East Brunswick, and Middlesex County. The summary data from nine equity analysis factors is listed in Table 1, with percentages in bold denoting the equity factors where the municipalities had higher rates than Middlesex County as a whole and percentages in light gray indicating the equity factors Milltown and East Brunswick had lower rates than the County. The Milltown and East Brunswick populations had lower rates than the County in most categories. Milltown had a much smaller portion of the population that is minority, foreign-born, and with limited English proficiency when compared to both East Brunswick and the County.

Table 1. Equity Analysis Factors for Milltown, East Brunswick, Middlesex County, and the NJTPA Region. Source: US Census ACS 2018-2022.

	Milltown	East Brunswick	County	NJTPA Region
Minority	17.9%	48.1%	60%	49.0%
Foreign Born	18.6%	32.5%	34.1%	26.5%
Low Income	15.2%	11.6%	18.7%	21.3%
Limited English Proficiency	9.4%	12.8%	15.7%	13.7%
Age 5 to 17	15.8%	**17.6%**	16.1%	16.1%
65 Years and Over	12.6%	**17.4%**	15.4%	16.4%
Disability	8.8%	8.5%	9.6%	9.8%
Female Population	**53.4%**	50.9%	50.3%	50.7%
Zero Vehicle Households	4.4%	5.2%	8.1%	12.1%

Using the demographic and socioeconomic data, an overall equity composite score was then calculated for the Ryders Lane corridor (see **Figure 5**) based on NJTPA's Equity Analysis Methodology, with the data displayed across five composite score categories from low to high, ranging from the lowest (Well Below Average) to Average to highest (Well Above Average). The study area is almost entirely within census tracts classified as "Average."

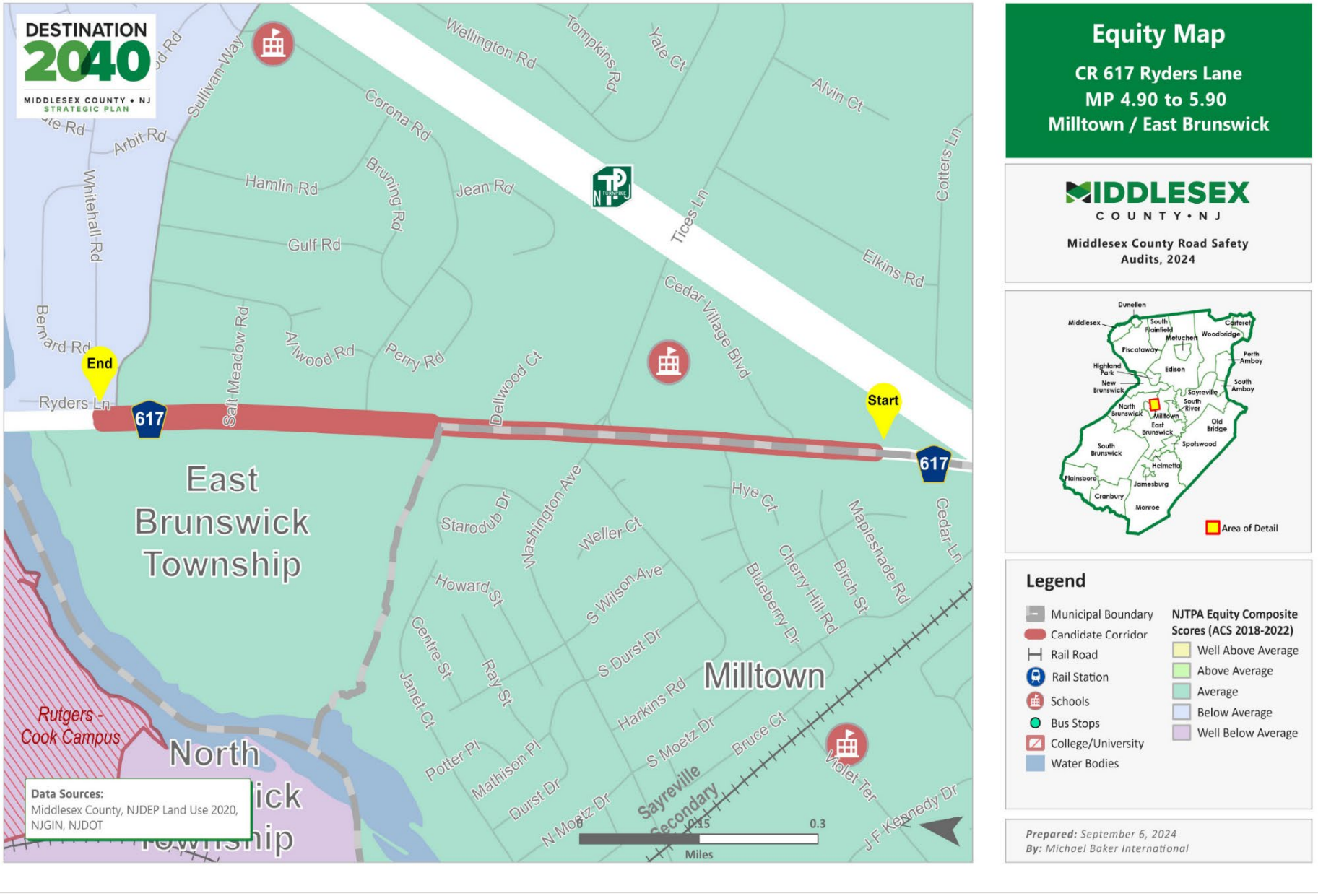


Figure 5. Ryders Lane equity analysis map.

2.4 Roadway Characteristics

Ryders Lane is an urban principal arterial with four motor vehicle travel lanes and one center turn lane, between MP 4.90 and 5.25, and four lanes between MP 5.25 and 5.90, with no on-street parking. The posted speed limit is 45 mph from MP 4.90 to 5.71 and 50 mph from MP 5.71 to 5.90. Ryders Lane is median divided north of Dellwood Court. There are three signalized intersections (Cedar Village Boulevard, Washington Avenue/Tices Lane, Sullivan Way) and four unsignalized intersections with stop control on the minor approaches.

2.5 Traffic Volumes

Traffic data available from NJDOT showed a traffic count of 25,342 in 2017 on Ryders Lane (Station ID 111240). Traffic volume data is included in **Appendix B**.

2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations

Ryders Lane has a limited sidewalk network, with sidewalks south of Blueberry Drive, on the southbound side. Sidewalks are present at the approaches to the Washington Avenue and Tices Lane intersection. North of the Washington Avenue/Tices Lane intersection, sidewalks continue for about 200 feet on the southbound side and are continuous on the northbound side until the northern limits of the corridor.

There are no existing dedicated bicyclist accommodations on Ryders Lane. When using the NJTPA's Level of Bicycle Compatibility (LBC) analysis, which rates the roadway network on a scale from one to five, indicating the traffic stress it imposes on bicyclists, Ryders Lane has an LBC four classification. Roads with an LBC score of four are comfortable for only very skilled cyclists and are generally characterized by six or more lanes, or at least four lanes with no shoulder, and speed limits greater than 35 mph.

2.7 Transit Service

Ryders Lane has no existing bus service along the corridor.

2.8 Stakeholders

The RSA team worked in collaboration with a Technical Advisory Committee (TAC) and local officials. The TAC served as a technical resource to the project team, providing necessary background documentation and insights about existing conditions. Members of the TAC included county, regional, and state governmental staff, and members of community-based organizations. Similarly, the project team met with municipal representatives of each selected corridor prior to the RSAs for their insights on the existing conditions, including observed or known issues and potential opportunities for each corridor.

2.9 Outreach Efforts

The RSA outreach efforts were launched with a Public Engagement Plan (PEP), outlining key project team members and strategies to engage the local community, neighborhood groups, stakeholders, and local officials. The goal is to reach a wide range of audiences, including members of the public who have traditionally been underrepresented, to have an opportunity to understand the purpose and goals of the RSAs and provide input during the process.

Public outreach will consist of in-person engagement events and digital communications, including a project website and social media posts. The project website (http://www.middlesexcountynj.gov/roadsafety) contains the most up-to-date content, such as project background, opportunities to participate in the process, current study status, milestones, and draft and final reports. Social media posts will provide pertinent information in a more widespread format and link to the project website to drive additional feedback.

Anticipated engagement events include three TAC meetings and 10 local officials meetings, two for each of the chosen corridors. The first set of local officials meetings was conducted before the RSAs with each municipality. Public meetings will be held for each corridor for local community members and stakeholders. These meetings will be structured in an “open house” style format, allowing participants to engage more informally with project team members and providing opportunities for in-depth responses to questions.

3 CRASH FINDINGS

The following sections summarize key crash findings for the Ryders Lane (CR 617) corridor. Crash data was obtained from NJDOT's Safety Voyager and Numetric for a five-year period, from the beginning of January 2019 to the end of December 2023, for pedestrian and bicycle crashes, and a three-year period, from the beginning of January 2021 to the end of December 2023, for motor vehicle crashes. Crash reports were requested from the Township of East Brunswick and Borough of Milltown for the case (incident) numbers listed in the combined dataset, as well as any additional crash reports in the study area that the municipality held. The crash narrative and diagram included in the NJ-TR-1 form, as completed by the on-scene law enforcement, provided detailed accounts of the incident.

During the study period, there were 146 reported crashes within the study area. Crashes are summarized by type, severity, temporal factors, and roadway surface and lighting conditions, and compared to countywide crash data. The following safety issues were identified based on overrepresented crash characteristics when compared to countywide crash data:

- Same direction – rear end crashes;
- Left turn/U turn crashes;
- Crashes occurring during wet conditions; and,
- Crashes occurring from 4 to 6 pm and from 9 to 10 pm.

A near-miss analysis was also performed at the Ryders Lane and Washington Avenue/Tices Lane intersection, to help better understand the existing conflicts and patterns at the intersection with the highest number of crashes within the study area. A crash diagram and summary table can be found in **Appendix C**. For more detailed crash information including data analysis methodology, please see the Ryders Lane Existing Conditions Report.

3.1 Crash Types

The most prevalent crash types on Ryders Lane were Same Direction – Rear End (39.7 percent), Left Turn/U Turn (21.2 percent), and Same Direction – Sideswipe (13.7 percent). See **Figure 6** for a full list of crash types.

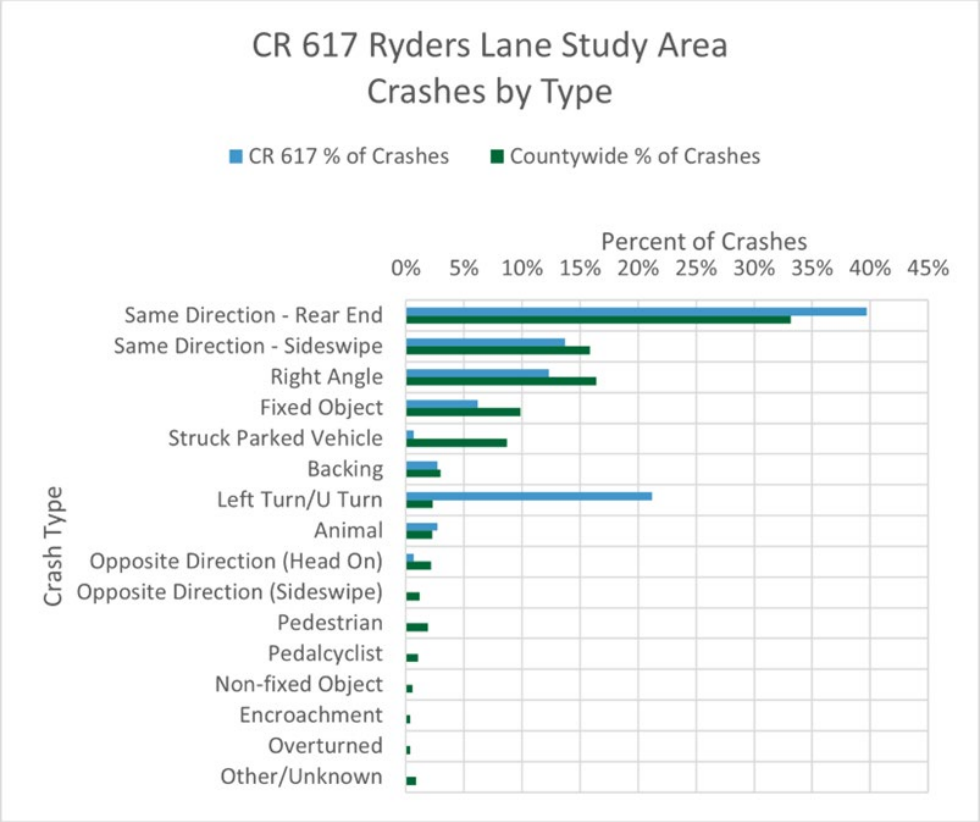


Figure 6. Ryders Lane (CR 617) crashes by type.

Left Turn/U Turn crashes are significantly overrepresented in the study area with 21.2 percent of the study area crashes compared to 2.3 percent of countywide crashes. See Table 2 for the top overrepresented crash types.

Table 2. Ryders Lane (CR 617) top overrepresented and reported crash types.

Crash Type	Overrepresented Crash Rank	Observed Crash Rank	Percent of Crashes on CR 617	Percent of Crashes Countywide	Percent Overrepresentation
Left Turn/U Turn	Highest	Second highest	21.2%	2.3%	18.9%
Same Direction - Rear End	Second highest	Highest	39.7%	33.1%	6.6%
Animal	Third highest	Not Ranked	2.7%	2.3%	0.5%
Same Direction - Sideswipe	Not Ranked	Third highest	13.7%	15.8%	-2.1%

Same Direction – Rear End crashes are also overrepresented in the study area with 39.7 percent of the study area crashes compared to 33.1 percent of crashes countywide.

3.2 Crash Severity

A greater percentage of crashes along the corridor resulted in a suspected serious injury or suspected minor injury (17 percent) compared to the average in Middlesex County (11 percent). No fatal injury crashes were reported during the study period. See Table 3 for a breakdown of crashes by severity.

Table 3. Ryders Lane (CR 617) crashes by severity.

Crash Severity	Number of Crashes	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
No Apparent Injury	103	70.5%	75.6%	-5.1%
Possible Injury	18	12.3%	13.3%	-1.0%
Suspected Minor Injury	23	15.8%	9.6%	6.2%
Suspected Serious Injury	2	1.4%	1.2%	0.2%
Fatal Injury	0	0.0%	0.3%	-0.3%

3.3 Temporal Trends

The following graphs show the crash breakdown by month, day of the week, and time of day.

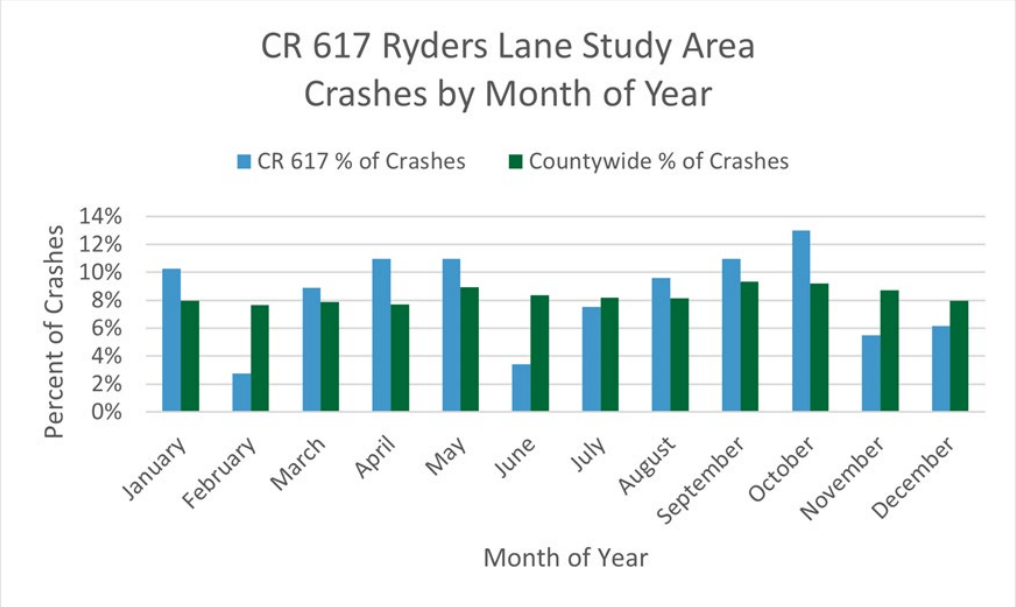


Figure 7. Ryders Lane (CR 617) crashes by month of the year.

Figure 7 shows that compared to Middlesex County, the Ryders Lane corridor had a greater percentage of crashes that occurred in January, April through May, and August through October, compared to the average in Middlesex County.

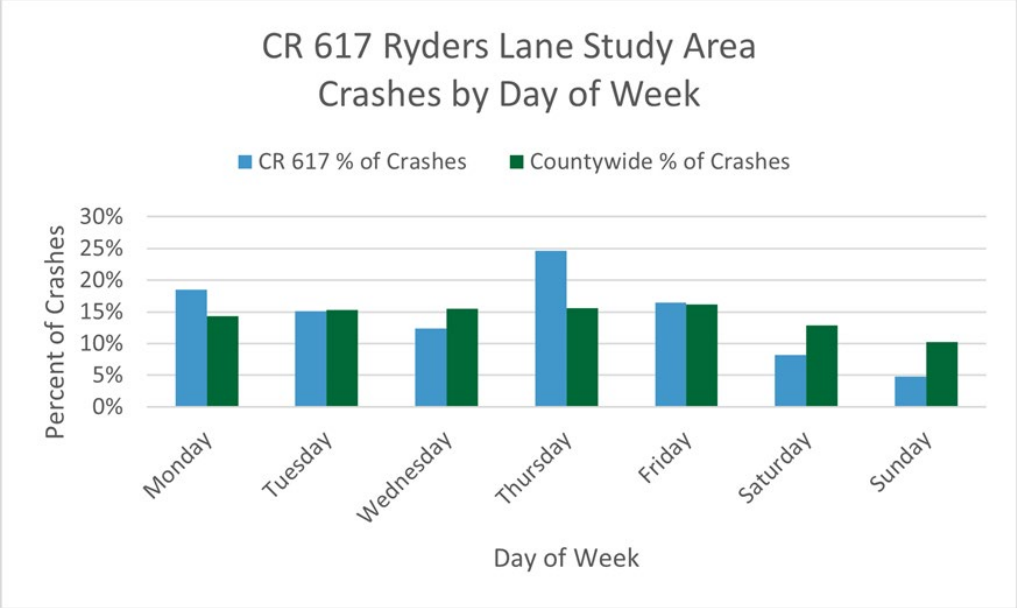


Figure 8. Ryders Lane (CR 617) crashes by day of the week.

Figure 8 shows a higher percentage of crashes occurred on the study corridor on Mondays and Thursdays compared to countywide crashes.

Figure 9, below, depicts a comparison between the study area and countywide crash percentages by time of day.

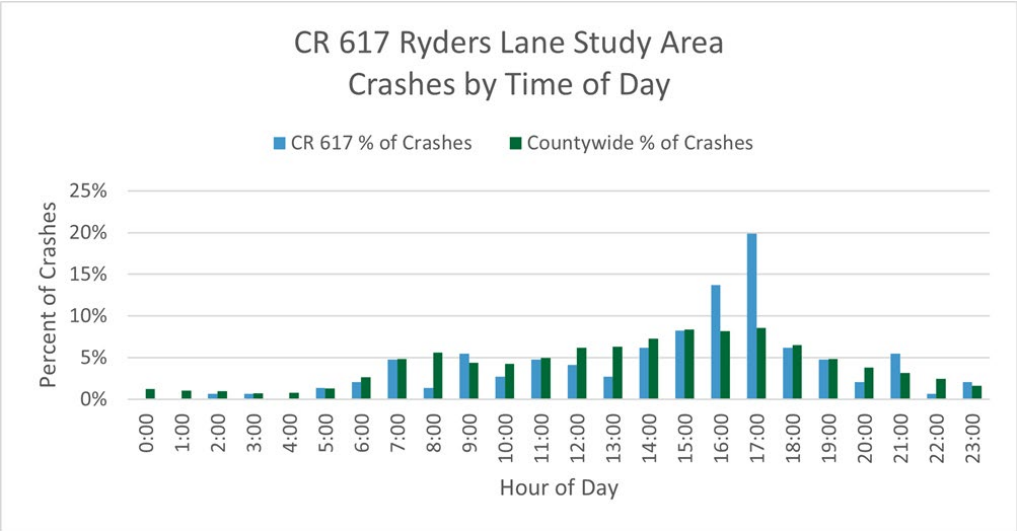


Figure 9. Ryders Lane (CR 617) crashes by time of day.

Ryders Lane had a significantly greater percentage of crashes from 4 to 6 pm and a greater percentage of crashes from 9 to 10 pm than the countywide percentages.

3.4 Roadway Surface & Lighting Conditions

A greater percentage of crashes on Ryders Lane occurred during wet road surface conditions (20.5 percent) compared to the baseline (15.1 percent). See Table 4 for the percentage of crashes by road surface condition.

Table 4. Ryders Lane (CR 617) crashes by roadway surface conditions.

Road Surface Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Dry	76.0%	82.3%	-6.3%
Wet	20.5%	15.1%	5.4%
Icy/Snowy/Slush	2.1%	1.9%	0.2%
Other/Unknown	1.4%	0.7%	0.7%

The percentage of crashes by light conditions is listed in Table 5.

Table 5. Ryders Lane (CR 617) crashes by light conditions.

Light Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Daylight	70.5%	69.5%	1.0%
Dawn or Dusk	1.4%	4.2%	-2.9%
Dark - Lighted	26.7%	23.2%	3.5%
Dark - Not Lighted	0.0%	2.0%	-2.0%
Unknown	1.4%	1.1%	0.3%

A greater percentage of Ryders Lane crashes occurred during Dark – Lighted conditions (26.7 percent) compared to countywide (23.2 percent).

3.5 Near Miss Analysis

The near-miss analysis was conducted for the Ryders and Washington Avenue/Tices Lane intersection. Data collection included 48 hours of video recording at the intersection, which was processed using artificial intelligence to flag near misses.



Figure 10. Ryders Lane (CR 617) near-miss example.

A post-encroachment time (PET) was determined for each near miss, which measures the time between one road user leaving a given point on a roadway and a second road user arriving at the same point. A PET of zero seconds means that a crash occurred, while a long PET suggests that two road users passed through the same point of conflict but with a significant amount of time lapsed between both vehicles. Conflicts by mode and PET during the 48-hour observation period are listed in Table 6, with a total of 393 conflicts in a two-day period.

Table 6. Ryders Lane (CR 617) intersection near misses by mode and PET.

Conflict Mode	Post-Encroachment Time			Total Conflicts	Total Percentage
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	5	27	349	381	97.0%
Vehicle-Bicycle	0	1	3	4	1.0%
Vehicle-Pedestrian	0	1	7	8	2.0%
Total	***5***	***29***	***359***	***393***	***100%***

The majority of near-miss conflicts were vehicle-to-vehicle (97 percent).

The data was also analyzed to determine which movements most often resulted in near-misses at the intersection. Conflicts with A PET of 2 seconds or more were not included in the analysis as those vehicle-to-vehicle near-misses were associated with a through movement and the subsequent perpendicular through movement. The movement type with the most near-misses involved a southbound vehicle turning left onto Tices Lane in front of a northbound through vehicle. All near-misses with a PET of less than 1.5 seconds also involved this movement.

Currently, the southbound left turn phasing is protective-permissive, a combination of protected phase, in which a green arrow indicates a protected turn, and a permissive phase, in which the left-turning vehicles must yield to the opposing traffic during the green indication, with a green ball displayed during the permissive window. Sightlines for southbound left-

turning drivers may be obstructed by vehicles queued in the northbound left turn lane and by the vertical curve north of the intersection.

3.6 Crash and Near Miss Data Finding Summary

Based on the crash data analysis, the crash types with the greatest PSI include left turn/U turn crashes, same direction – rear end crashes, and vehicle-animal crashes.

Left turn/U turn crashes are the most overrepresented crash type along CR 617 Ryders Lane, which may occur when a driver misjudges the speed and distance of an oncoming vehicle, and/or becomes impatient waiting to turn left due to insufficient gaps in traffic. Many unsignalized intersections along Ryders Lane do not have right or left turn lanes, and there are many closely spaced driveways, which may contribute to rear end crashes, as a trailing driver may not notice a leading driver slowing or stopping to turn right or left into a minor road or driveway.

The analysis also noted that crashes occurring on wet road surfaces were also overrepresented. Insufficient drainage structures, and/or debris covering drains and worn pavement markings, may contribute to crashes during wet road surface conditions.

Crashes during dark-lighted conditions were overrepresented, indicating insufficient or poorly placed roadway lighting, impacting nighttime visibility for both drivers and pedestrians on Ryders Lane. Additionally, crashes were overrepresented from 4 to 6 pm and from 9 to 10 pm, which aligns with peak commuting hours and potential reduced visibility conditions.

The near miss conflict data analysis at the intersection of CR 617 Ryders Lane and Washington Avenue/Tices Lane identified six movement combinations that conflicted with a post-encroachment time of less than two seconds, with the most conflicts, 23, occurring between southbound left-turning vehicles and northbound through vehicles. During the crash data study period there were 20 reported crashes between these movements.

4 RSA LOGISTICS

4.1 Audit Schedule

Participants were given a pre-audit briefing at the local officials' meetings to prepare for the in-person field visit component of the RSA. Participants were briefed on the audit itinerary, walking route, observations and takeaways from the project team's field visits, and general safety guidelines. The Ryders Lane local officials meeting and pre-audit briefing took place on October 9, 2024. The local officials' meeting presentation is provided in **Appendix D**.

The RSA team convened on Tuesday, October 22, 2024, at 8:00 a.m. for the Ryders Lane field audit. Participants met at a conference room at the Wilkin & Guttenplan Office, by the intersection of Ryders Lane and Tices Lane. Following a summary of the orientation given during the pre-audit briefings, participants were given a safety vest and a corridor prompt list. The corridor prompt list consisted of several "yes/no" questions intended to prompt consideration of various topics, including sidewalk and roadway conditions, conflict points between drivers and pedestrians, lighting, driveways, intersection geometry, transit access, and overall perception of safety along the corridor. Audit materials are included in **Appendix E**.

An in-person debrief was held immediately after the audit to discuss findings and observations. Identified issues and improvements focused on operational and design aspects of the corridor suggested by audit participants in the field and/or through their completed prompt lists. Identified issues and improvements were categorized as either corridor-wide or location-specific and are presented in Section 5 of this report. Corridor-wide issues and treatments were observed at multiple locations throughout the study corridor, while site-specific issues and treatments focused on specific mid-block locations or intersections.

4.2 Audit Participants

The RSA participants consisted of Middlesex County staff, the consultant project team, municipal staff, and representatives from the NJTPA and VTC. Participants in attendance at each audit event, including the local officials meeting and the in-person audit, are listed in **Appendix F**.

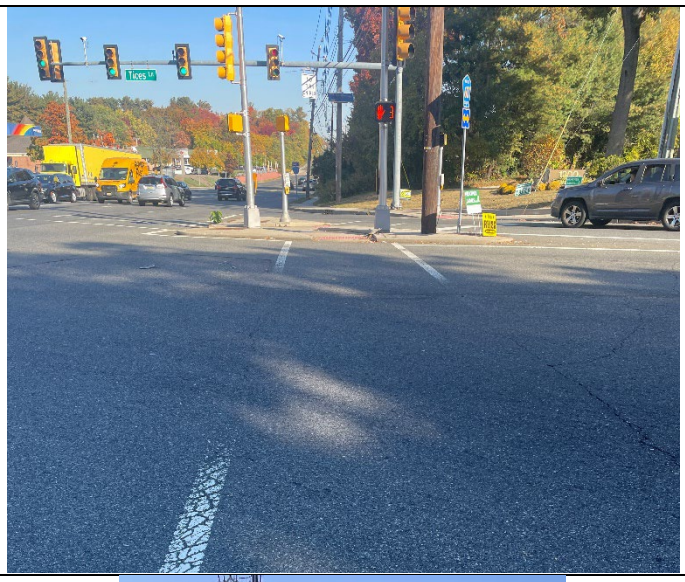
5 IDENTIFIED ISSUES & OBSERVATIONS

The following is a summary of the identified deficiencies and observations made by the audit team.

5.1 Corridor-wide

The audit team observed and discussed the following items at multiple locations.

Description	Photo Example
Speeding While speeds were not measured during the audit, participants empirically noted that vehicles appeared to be consistently driving above the posted speed limit and often well above the posted speed. It was also noted by audit participants that the corridor does not have a place for law enforcement to safely pull over speeding vehicles or run a speed radar, making travel speeds harder to enforce.	
Lane Striping and Edge Lines Lane Striping and Edge Lines are not provided consistently throughout the corridor. This is a missed opportunity to achieve traffic calming benefits.	

Crosswalk Condition and Striping Several Crosswalks along the corridor are striped in the "standard" fashion, with two parallel lines. These crosswalks are not considered high-visibility, resulting in limited driver awareness of the crosswalk on the approach to an intersection. In other locations, crosswalk paint is faded.	
Signage Sign inconsistencies were observed throughout the corridor, with some signs not installed at the required heights. Additionally, long intervals between regulatory speed limit signs, particularly in the southbound direction, leave drivers unaware of the posted speed.	

Substandard & Noncompliant Curb Ramps Several curb ramps throughout the corridor are not compliant with the Americans with Disabilities Act (ADA) standards. Some curb ramps are misaligned, forcing pedestrians, especially those using wheelchairs or pushing strollers, into an active travel lane. Several curb ramps are missing a detectable warning surface, and an area, or an adequately-sized landing or turning space.	
Substandard Sidewalks Sidewalk conditions varied throughout the corridor. In some locations, sidewalks were cracked, worn, or deteriorating posing a trip hazard for pedestrians. In other locations, a lack of maintenance, usually debris or overgrown weeds and foliage, narrowed the usable sidewalk space. South of Tices Lane, sidewalks often lacked a buffer area between the sidewalk and curbing, placing pedestrians directly adjacent to high-speed traffic and heavy trucks.	

Incomplete Sidewalk Network

Several segments of Ryders Lane completely lack sidewalks including along the northbound side, with a significant gap from north of the Turnpike to the approach to the Tices Lane intersection, and the southbound side, from north of the Washington Avenue intersection to the northern corridor limits, a distance of approximately half-a-mile. Therefore, the Washington Avenue and Tices Lane intersection is a crucial crossing location for pedestrians who wish to walk within the existing sidewalk network. North of Blueberry Drive, pictured on the right, in addition to missing sidewalks, encroachment of utility poles and the abutting wall narrows the existing space considerably, forcing pedestrians to walk directly adjacent to high-speed traffic and heavy trucks.



Drainage

Several drainage grates along the corridor are filled with sediment and debris, requiring maintenance for proper functionality. Ryders Lane had an overrepresentation of crashes during wet road surface conditions, underscoring the need for regular maintenance along the corridor.

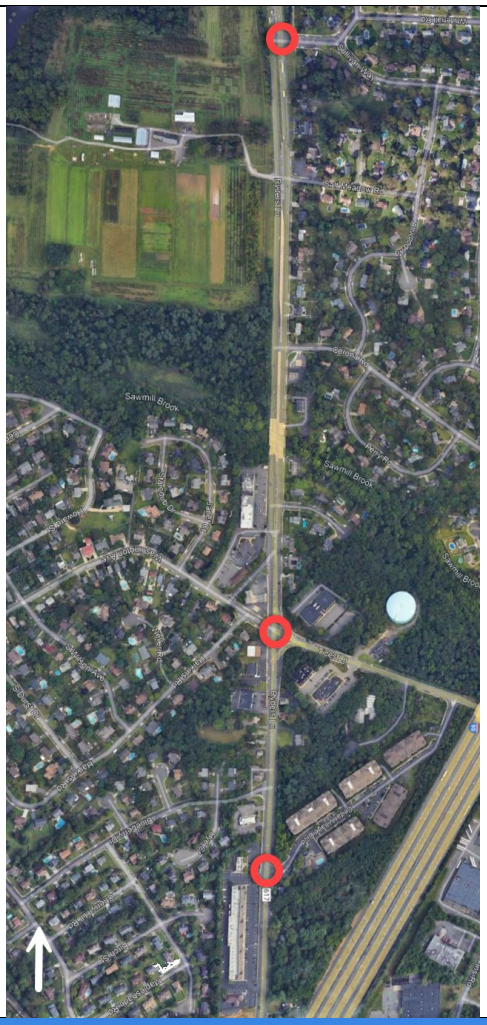


Long Distances Between Crossings

There are only three marked crossing locations for pedestrians within the one-mile corridor:

- Cedar Village Boulevard
- Washington Ave/Tices Lane
- Sullivan Way

Existing land uses, topography, and generally long crossing distances may inhibit additional crossing locations on the corridor due to the lack of sidewalks and pedestrian infrastructure on certain stretches of the road. This emphasizes the importance of improving pedestrian safety at existing crossing locations.



Commercial Driveways

Commercial driveways along Ryders Lane have no turning restrictions, allowing vehicles to make left turns in and out in conflict with high-speed traffic. Turning movements from driveways are further complicated by limited sight lines due to the vertical curves and sight obstructions along the roadway.

Additionally, sidewalks are not continuous across several commercial driveways and driveway apron slopes are not ADA-compliant in some locations.



Insufficient Lighting Though the audit was conducted during the daytime, participants observed the lack of lighting both along the corridor and at marked pedestrian crossings. Anecdotally participants also noted that the raised median islands north of Dellwood Court are difficult to see at night.	
Limited Visibility Due to the rolling terrain, various vertical curves along Ryders Lane, particularly north of Tices Lane, affect sight lines and visibility, especially for turning vehicles and vehicles backing out of the residential driveways along the northbound side of the road.	

5.2 Location-specific

The following items were location-specific and were discussed by the audit team at specific intersections or mid-block locations.

Description	Photo Example
Location: Northern Entrance to Heritage Plaza • The Northern Entrance to the Heritage Plaza is signal-controlled. When vehicles head north within the Heritage Plaza Parking lot, they approach a separate traffic signal within the shopping center parking area. However, there is confusion about what movements are permissible with the signal. Once it turns green, it is unclear if drivers can make a right to exit the lot and continue onto Ryders Lane since they have no visibility of the cross-traffic signal at Ryders Lane.	

Location: Tices Lane intersection

- Significant queueing was observed on Ryders Lane at the Tices Lane intersection, with vehicles in the southbound left turn lane (from Ryders Lane to Tices Lane) blocking the northbound left turn lane into People's Plaza.
- Audit Participants also observed that vehicles consistently ignored the "No Turn on Red" sign when making a right onto Ryders Lane from Tices Lane. Tices Lane has a protected right turn slip lane. When they did obey the intersection controls, drivers frequently stopped past the stop bar, blocking the crosswalk.
- A traffic light timing overlap was identified at this intersection, with the protected right turn signal on Ryders Lane active simultaneously with the green light for Washington Avenue, which has a permitted left turn.

Additionally, pedestrian crossing distances are very long at this intersection, and pedestrian islands were littered with debris.



Location: Dellwood Court

- Audit participants observed an elementary school bus stopped on Ryders Lane, directly within the travel lane. This location brings children close to the four-lane highway, increasing the potential for conflicts and causing significant delays north of the Tices Lane intersection.
- Non-compliance with the stopping law for school buses by passing motorists was also observed



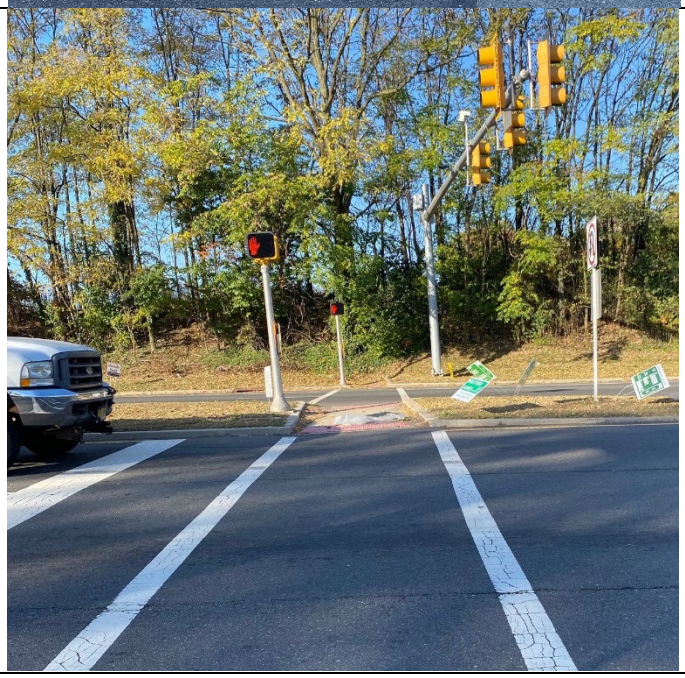
Location: Corona Road, Salt Meadow Road

- The Corona Road and Salt Meadow Road intersections have no marked crosswalks and large corner radii with painted median islands. Large corner radii allow high-speed right turns, compromising pedestrian safety.
- Curb ramps are not ADA-compliant, lack detectable warning surfaces, and are also misaligned, oriented towards Ryders Lane, encouraging longer crossings and forcing pedestrians closer to an active and high-speed travel lane.



Location: Sullivan Way

- The Sullivan Way intersection has a standard crosswalk with two parallel lines, which is not considered high-visibility.
- The crosswalk allows pedestrians to cross Ryders Lane from east to west, with a very short walking interval, but the corridor lacks a complete network of pedestrian sidewalks on the southbound side of Ryders Lane from just north of Washington Avenue to north of the project limits.
- This intersection is also not well-illuminated, further reducing visibility of pedestrians.



6 FINDINGS & RECOMMENDATIONS

Recommendations were formulated based on existing conditions data findings and the identified issues and observations discussed and recorded during the safety audit and the post-audit debrief. Recommendations are organized into two groups: corridor-wide, and site-specific. Corridor-wide recommendations are prescribed for issues identified along multiple locations throughout the corridor, while site-specific recommendations are more targeted, focusing on specific intersections or segments.

6.1 Implementation Matrix (Recommendations)

The Implementation Matrix lists the findings and recommendations made by the RSA Team and County staff. Recommendations have a corresponding order of magnitude cost, timeframe, and jurisdiction to assist with project prioritization and implementation. The recommendations in bold font are an FHWA Proven Safety Countermeasure (PSC) that includes a collection of 28 proven strategies to reduce serious injury and fatal crashes.[2] Ultimately, these recommendations should be evaluated and designed for the roadway context by the roadway owners and/or a professional engineer according to applicable codes, standards, and best practices.

Table 7. Implementation Matrix legend

Symbol	Meaning	Definition
$	Low Cost	Maintenance and simple road repairs.
$$	Medium Cost	May require engineering or design work.
$$$	High Cost	Longer-term projects that might require full engineering and ROW acquisition.
🕐	Short Term	Could be accomplished within one year.
🕐🕐	Medium Term	Could be accomplished within one to three years and may require some engineering.
🕐🕐🕐	Long Term	Could be accomplished within three years or more and may require full engineering.

[2] https://highways.dot.gov/safety/proven-safety-countermeasures

Table 8. Ryders Lane recommendations.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Ryders Lane - Corridor Wide				
1	**Conduct a lighting analysis to identify specific locations in need of lighting upgrades.**	**$$**	🕐🕐	Municipality
2	**Conduct a sidewalk assessment to identify specific locations where the sidewalks need repair, replacement, or construction.[3]**	**$$**	🕐🕐	Municipality
3	Conduct a drainage evaluation due to the overrepresentation of crashes under wet weather conditions.	**$$**	🕐🕐	County
4	Conduct a curb ramp assessment to identify specific locations in need of upgrades for ADA compliance.	**$$**	🕐🕐	County, Municipality
5	**Review the County's standard driveway apron design for development applications, including sidewalk treatment/materials carried through the driveway and ADA-compliant sidewalk treatments, to apply to all new development and redevelopment projects on County roads including single-family and multi-family residential developments.**	**$**	🕐	County
6	Provide sidewalk buffer between curb and sidewalk.	**$$**	🕐🕐	Municipality, Property Owner
7	**Stripe edge lines.**	**$**	🕐	County
8	**Conduct an access management analysis for the corridor.**	**$$**	🕐🕐	County, Municipality, Property Owner
9	Conduct a sign inventory, checking for placement, condition, and retro reflectivity, and replace/add/remove signs as needed based on MUTCD requirements.	**$$**	🕐🕐	County
10	Install reflective pavement markings.	**$**	🕐	County
11	**Perform a speed study along the corridor to determine targeted locations for traffic calming and/or enforcement.**	**$$**	🕐	County, Municipality
12	**Identify strategies to reduce vehicular operating speeds through design and driver feedback elements, including speed feedback signs and/or narrower lanes (striping).**	**$$**	🕐🕐	County

[3] The County neither constructs nor maintains sidewalks along a County road. Maintenance of sidewalks is the responsibility of the adjacent property owner, and municipalities may enforce maintenance by local ordinance. Municipalities can also construct sidewalk and have the legal ability to assess property owners for the cost.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Cedar Village Boulevard / Heritage Plaza				
13	**Evaluate signal placement at Cedar Village Boulevard intersection and within Heritage Plaza. Consider relocating Heritage Plaza exit to southern driveway and installing a signal to safely accommodate turning movements. Replace traffic signal and revise traffic pattern within Heritage Plaza to remove multi-phase signalization within the shopping center.**	**$$**	🕐🕐	County, Municipality, Property Owner
14	**Upgrade signals to include backplates with retroreflective borders.**	**$**	🕐	County
Between Cedar Village Boulevard and Blueberry Drive				
15	**Construct sidewalks on the northbound side of Ryders Lane.**	**$**	🕐🕐	Municipality, Property Owner
16	Perform regular maintenance, trimming the overgrown brush on the northbound side of Ryders Lane.	**$**	🕐	Municipality, Property Owner
17	**Construct ADA-compliant sidewalks and curb ramps across driveway aprons.**	**$**	🕐🕐	Municipality, Property Owner
Blueberry Drive				
18	Consider reducing corner radii at Blueberry Drive.	**$**	🕐	County
19	Install ADA-compliant curb ramps with safe alignments.	**$**	🕐	Municipality
20	**Stripe a high-visibility crosswalk across Blueberry Drive.**	**$**	🕐	Municipality
21	**Prohibit left turns from Blueberry Drive.**	**$**	🕐	Municipality
Between Blueberry Drive and Washington Avenue/Tices Lane				
22	**Install sidewalks on both sides of the corridor to fill gaps, modifying retaining walls as needed.**	**$$**	🕐🕐	Municipality, Property Owner
23	**Construct ADA-compliant sidewalks and curb ramps across driveway aprons.**	**$**	🕐🕐	Municipality, Property Owner

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Washington Avenue/Tices Lane				
24	Install a "Stop Here on Red" (R10-6 or R10-6a) at the slip lane on the northeast corner of the intersection to supplement the existing No Turn On Red condition.	**$**	🕐	County
25	Prohibit right turns on red at the slip lane at the southeast corner of the intersection. Install "No Turn on Red" signage as well as a "Stop Here on Red" (R10-6 or R10-6a) to improve stop bar compliance.	**$**	🕐	County
26	**Perform a more targeted intersection improvement study that looks at existing volumes, geometry, lane configurations, signal improvements, drainage, and striping, including the entrance to Peoples Plaza.**	**$$**	🕐🕐	County
27	Adjust signal phasing to eliminate conflicts.	**$$**	🕐🕐	County
28	Coordinate with utilities to fix loose utility wire just north of Tices Lane on the northbound side of the corridor.	**$**	🕐	County, Property Owner
29	Evaluate existing signs for MUTCD compliance.	**$**	🕐	County
30	Consider narrowing receiving lanes on Washington Avenue/Tices Lane to better define lanes and slow through movements.	**$$**	🕐🕐	County, Municipality
31	Extend the left turn lane on southbound Ryders Lane to Tices Lane to accommodate demand.	**$**	🕐🕐	County
32	Perform maintenance on existing drainage inlets.	**$**	🕐	County
33	**Install signal backplates with retroreflective borders to improve signal visibility.**	**$**	🕐	County
34	**Stripe high-visibility crosswalks across all intersection legs.**	**$**	🕐	County, Municipality
35	**Install a curbed median on Ryders Lane to separate opposing directions of traffic.**	**$$**	🕐🕐	County
36	Revise traffic signal phasing to include a protected only phase for southbound left turns.	**$$**	🕐🕐	County
Between Washington Avenue ramp and Peoples Plaza				
37	**Construct sidewalk to connect existing sidewalk at Sunoco to Peoples Plaza.**	**$**	🕐🕐	Municipality, Property Owner
38	**Install a high-visibility crosswalk across the Washington Avenue jughandle with ADA compliant curb ramps, RRFB, and signage.**	**$$**	🕐🕐	County

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Entrance to Peoples Plaza				
39	**Consider making the driveway to the shopping center right-in/right-out to minimize left-turn conflicts. Consider centerline hardening to physically restrict turning movements.**	**$$**	🕐🕐🕐	County, Municipality, Property Owner
Dellwood Court				
40	Coordinate with utilities to fix broken fire hydrant, north of Dellwood Court.	**$**	🕐	County, Property Owner
41	Work with schools to investigate alternate locations for bus stops on Ryders Lane.	**$**	🕐	Municipality, School District
42	Install ADA-compliant curb ramps with safe alignments.	**$**	🕐	Municipality
43	**Stripe a high-visibility crosswalk across Dellwood Court, checking alignments for optimal pedestrian crossing distance and visibility.**	**$**	🕐	Municipality
Between Dellwood Court and Corona Road				
44	Construct ADA-compliant sidewalks and curb ramps across driveway aprons.	**$**	🕐🕐	Municipality, Property Owner
Corona Road				
45	Consider reducing the corner radius at the southern corner of Corona Road.	**$**	🕐🕐	County
46	Install ADA-compliant curb ramps with safe alignments.	**$**	🕐	Municipality
47	Relocate stop bar on Corona Road to accommodate a crosswalk.	**$**	🕐	Municipality
48	**Stripe a high-visibility crosswalk across Corona Road, with an alignment that allows maximum visibility for drivers turning right onto Corona Road from Ryders Lane.**	**$**	🕐	Municipality
Salt Meadow Road				
49	Install ADA-compliant curb ramps with safe alignments.	**$**	🕐	Municipality
50	Relocate stop bar on Salt Meadow Road to accommodate a crosswalk.	**$**	🕐	Municipality
51	**Stripe a high-visibility crosswalk across Salt Meadow Road with an alignment that allows maximum visibility for drivers turning right onto Salt Meadow from Ryders Lane.**	**$**	🕐	Municipality

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Between Salt Meadow Road and Sullivan Way				
52	**Construct concrete sidewalk across driveway aprons at the corner property on the northern side of the Salt Meadow Road intersection, compliant with ADA guidelines.**	**$**	🕐🕐	Municipality, Property Owner
Sullivan Way				
53	**Perform a more targeted intersection improvement study to consider revising the existing intersection reconfiguration to a roundabout or other alternative to mitigate left-turn conflicts.**	**$$**	🕐🕐	County
54	**Consider LPI at the Sullivan Way crossing.**	**$$**	🕐🕐	County
55	**Stripe a high-visibility crosswalk across Sullivan Way and Ryders Lane.**	**$**	🕐	County, Municipality
56	Install a high-mount supplemental signal head for northbound Ryders Lane.	**$$**	🕐	County
57	Install a Pedestrian Crossing warning sign to alert drivers making a right onto Sullivan Way from northbound Ryders Lane of the crosswalk and potential pedestrian crossings.	**$**	🕐	County
58	**Consider feasibility of sidewalk installation north of Sullivan Way with the goal of providing a future pedestrian connection between East Brunswick and New Brunswick.**	**$$**	🕐🕐🕐	Municipality, Property Owner

6.2 Potential Funding Sources

Some safety enhancement concepts may be able to be implemented using signs and paint. These tend to be low-cost and are assumed to be completed with County staff and maintenance budgets. For larger projects, external funding may be required. There are several state and federal programs available to fund road safety improvements. This section provides a brief overview of several funding sources, including applicant requirements and the types of projects typically funded. Funding programs are subject to change. Additional information can be found by clicking on the link below each program.

6.2.1 Local Safety Program

The Local Safety Program (LSP) is a federally funded program supporting the construction of cost-effective and high-impact safety improvements on county and local roads. This program focuses on implementing FHWA Proven Safety Countermeasures (PSC), which are included as part of the safety recommendations in this report. Eligible projects include new traffic signals, road diets, roundabouts, curb extensions, pedestrian signals, and bike lanes. NJTPA subregions can receive application assistance through the Consultant Assistance Program a year in advance of the LSP solicitation. Consultants can help with required application elements like traffic data collection, crash diagrams, environmental impacts, alternatives analysis, and conceptual layouts.

The LSP application considers RSAs in the “Past Studies” portion of Section 3, awarding one point in the project scoring form for corridors that have undergone an RSA. The RSA process also produces data required for the application including crash diagrams and recommended PSCs.

https://www.njtpa.org/LSP.aspx

6.2.2 Safe Streets and Roads for All

The Safe Streets and Roads for All (SS4A) was established by the Bipartisan Infrastructure Law (BIL) with $5 billion in appropriated funds for over five years to support initiatives that prevent serious injury and fatal crashes. The program is currently anticipated to continue until FFY 2026. The program offers Planning and Demonstration Grants and Implementation Grants. Because the County has already adopted the Vision Zero Safety Action Plan, the Planning and Demonstration Grant can be used to fund supplemental planning or demonstration activities that support the Action Plan including action plan updates, follow-up data collection and safety analysis, progress reporting, feasibility studies, MUTCD engineering studies, and behavioral or operational activity pilot programs. The Implementation Grant funds projects and strategies identified in the Action Plan. Eligible Implementation Grant projects include low-cost safety treatments like striping and road diets, improving pedestrian networks with lighting and high-

visibility pavement markings, speed management, bike network development, and other infrastructural, behavioral, and operational activities.

The design recommendations in this memo, illustrated in the conceptual plan, can be used for an implementation grant application as they are consistent with the Middlesex County Vision Zero Action Plan action items. Other recommendations, such as conducting additional safety studies or inventorying the current network, can be funded through either a Planning and Demonstration Grant or an Implementation Grant.

https://www.transportation.gov/grants/SS4A

6.2.3 Transportation Alternatives Program

The Transportation Alternatives Set-Aside program offers federal funds for non-traditional surface transportation projects. Counties and municipalities are eligible to apply. Projects are recommended to have a requested funding amount greater than $1.5 million. Funds are provided on a reimbursement basis, and projects must be authorized for construction within two years of the grant notification and have formal community support with letters or resolutions of support dated within one year of the application solicitation letter date.

The County would be eligible for funding the improvements recommended in this report under categories 1 and 5, summarized below:

- Design and construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation including new or reconstructed sidewalks and curb ramps, bike lane striping, bike parking and bus racks, and bike and pedestrian bridges and underpasses.
- Community improvement activities including lighting, historic sidewalk paving, benches, planting containers, decorative walls, and walkways.

https://njdotlocalaidrc.com/federally-funded-programs/transportation-alternatives

6.2.4 Safe Routes to School (SRTS)

The Safe Routes to School (SRTS) Program is federally funded by the FHWA and administered by the NJDOT in partnership with the NJTPA, for infrastructure projects enabling K-12 students to walk and bike safely to school, making bicycling and walking to school a more appealing and accessible transportation alternative, and facilitating projects that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Counties, municipalities, and school districts can apply to the program for projects within two miles of a K-12 school. Projects may include ADA-compliant sidewalks and curb ramps, crosswalk

installation, pedestrian pushbuttons and signal heads, bike paths, bike parking, striping, lighting, signals, school zone delineations, and other traffic calming improvements.

SRTS funds are provided on a reimbursement basis. It is recommended that projects have a requested funding amount between $300,000 and $1 million. Projects must be authorized for construction within two years of the grant notification and have community and school district support. The municipality where the project is located should also adopt a Complete Streets Policy to demonstrate a commitment to safety. An SRTS handbook can be found on the NJDOT's Local Aid Resource Center website.

https://njdotlocalaidrc.com/federally-funded-programs/safe-routes-to-school

6.2.5 Local Freight Impact Fund Grant

NJDOT's Local Freight Impact Fund (LFIF) Grant Program is designed to help counties and municipalities mitigate the impact of freight transportation on local roads. The five program categories are:

- **Bridge Preservation**, to improve ratings/conditions in support of large truck traffic
- **New Construction**, in support of large truck traffic
- **Pavement Preservation,** to improve pavement condition in support of large truck traffic
- **Truck Safety and Mobility**, to improve large truck access, routing, and mobility along the County roadway system
- **Pedestrian Safety** to improve pedestrian safety and access

To be eligible for this grant, the project must be within the applicant's jurisdictional limit (unless a joint application is filed), the project must provide access to a freight node, and there must be a minimum of 10 percent large truck volume within the corridor limits when compared to the total ADT.

While this grant is more restricted in scope, focusing on freight transportation, it may be worth exploring locations with heavy truck traffic, as the program can fund several safety improvements recommended in this report, especially in locations with pedestrian and truck conflicts. Eligible improvements under the pedestrian safety category include through crosswalks, pedestrian-activated traffic signals, ADA improvements, traffic calming measures, crossing islands, curb extensions, improved lighting, improved signage, constructing or connecting pedestrian routes, sidewalk reconstruction or replacement, and improving hazard conditions for pedestrians.

https://njdotlocalaidrc.com/state-funded-programs/local-freight-impact-fund

6.3 Conceptual Plan

A conceptual “sketch” or “planning-level” plan showing the recommended physical design elements for Ryders Lane is included in **Appendix G**. Please note that the plan is intended to illustrate potential future conditions based on audit recommendations found in Section 6 – Findings & Recommendations and is not meant as engineering drawings.

7 CONCLUSION

The Ryders Lane Road Safety Audit Report identifies road safety issues along the corridor from north of the New Jersey Turnpike to north of Sullivan Way, using crash data, roadway characteristics, traffic counts, and experiential data gathered from the RSA events to prescribe safety countermeasures to reduce serious injury and fatal crashes. The data collection process was augmented by stakeholder input and feedback, which highlighted safety issues that were not evident through the data alone.

Corridor recommendations were developed through a collaborative process involving coordination among the Project Team, the RSA Team, and the County Staff to address the issues identified through the safety audits and the crash data. General corridor recommendations were made for issues consistently observed throughout the corridor, like faded crosswalks and a lack of pedestrian signals, while site-specific recommendations were made for key mid-block locations and intersections and gaps in the sidewalk network. Recommendations have an associated order of magnitude cost, implementation timeframe, and responsible jurisdiction to assist the County with project prioritization and implementation. Conceptual plans, based on audit recommendations, were also created to help illustrate potential future corridor conditions.

The safety improvements recommended in this report are consistent with the County's Vision Zero Safety Action Plan to reduce serious injuries and fatalities on County roadways. A variety of short-term and long-term interventions are recommended so that small steps can be taken incrementally to improve safety for all road users in Middlesex County.

Appendix A

Straight Line Diagram

MIDDLESEX COUNTY 617 (South to North)

Mile Posts: 2.000 - 5.000

Secondary Direction

Primary Direction



Pavement	12	24
Shoulder	12	
Number of Lanes	1	2
Speed Limit	40	
Street Name	Ryders Lane	

Interstate Route 287

US Route 22

NJ Route 33

County Road 689

Interchange Number 2

Grade Separated Interchange

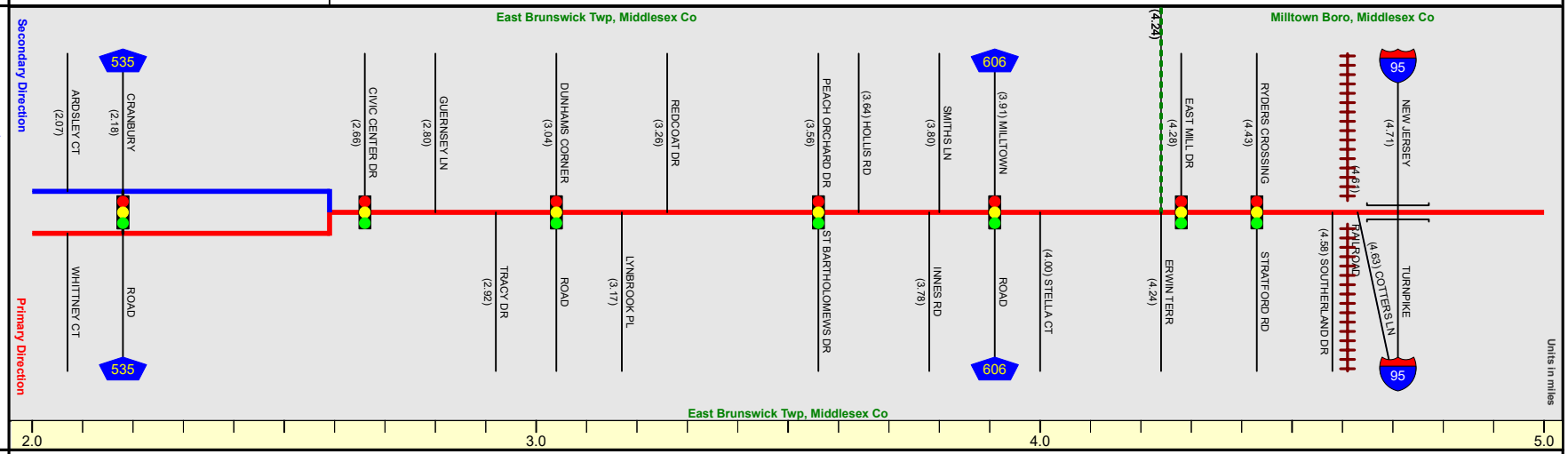
Traffic Signal

Traffic Monitoring Sites WIM AVC VOL

Road Underpass

Road Overpass

Dyn Msg Sign DMS



Street Name	Ryders Lane													
Jurisdiction	County													
Functional Class	Urban Principal Arterial													
Federal Aid - NHS Sy	NHS													
Control Section														
Speed Limit	40										45			
Number of Lanes	1	2	4	2							3			
Med. Type	Curbed	None												
Med. Width	12													
Pavement	12	48	26	48	24	28	36	48	60			48	60	
Shoulder	14					2								
Traffic Volume	15,572 (2017)													
Traffic Sta. ID	111239													
Structure No.											M08109R			
Enlarged Views														

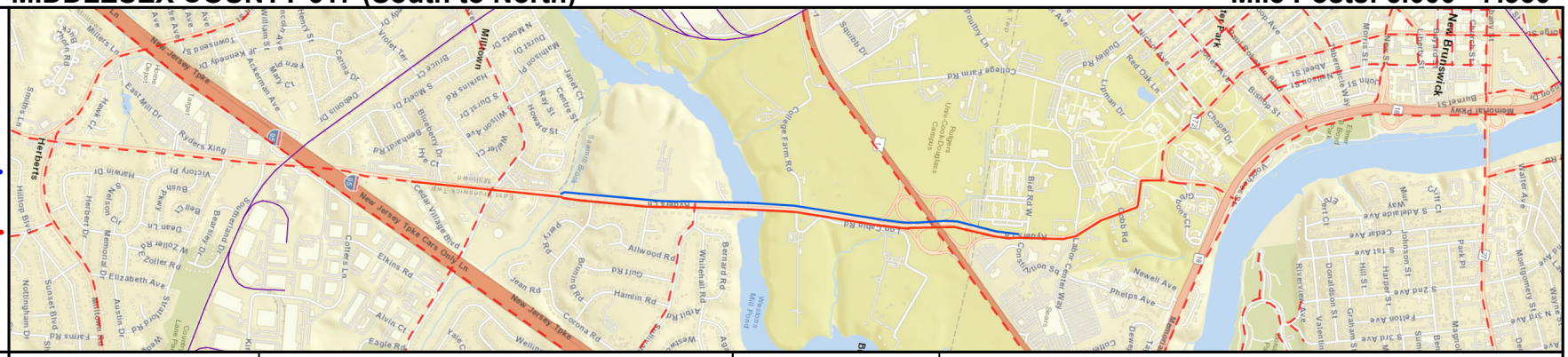
SRI = 12000617__

Date last inventoried: June 2011

Page Created: June, 2020

MIDDLESEX COUNTY 617 (South to North)

Mile Posts: 5.000 - 7.360



| | | |

Appendix B

Traffic Data

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 09/11/2017 to 09/13/2017

Site names:	111240,Ryders Lane-5.02,12000617__	Seasonal Factor Grp:	rg3_5U
County:	MIDDLESEX	Daily Factor Grp:	rg3_5U
Funct Class:	Urban Principal Arterial - Other	Axle Factor Grp:	rg3_5U
Location:	BET NJ TNPK AND BLUEBERRY DR	Growth Factor Grp:	rg3_5U

	Sun, Sep 10, 2017			Mon, Sep 11, 2017			Tue, Sep 12, 2017			Wed, Sep 13, 2017			Thu, Sep 14, 2017			Fri, Sep 15, 2017			Sat, Sep 16, 2017		
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S
00:00							143	71	72	122	52	70									
01:00							73	23	50	76	25	51									
02:00							46	25	21	41	22	19									
03:00							58	30	28	46	23	23									
04:00							115	70	45	109	76	33									
05:00							306	228	78	347	243	104									
06:00							1,056	824	232	1,070	812	258									
07:00							1,978	1,474	504	1,995	1,507	488									
08:00							1,944	1,404	540	1,897	1,352	545									
09:00							1,448	932	516	1,410	926	484									
10:00							1,214	703	511	1,229	713	516									
11:00							1,260	694	566	1,240	679	561									
12:00							1,491	771	720	1,495	753	742									
13:00				1,358	675	683	1,466	729	737												
14:00				1,545	697	848	1,611	714	897												
15:00				1,807	761	1,046	1,919	788	1,131												
16:00				2,147	713	1,434	2,153	703	1,450												
17:00				2,224	765	1,459	2,287	773	1,514												
18:00				1,968	623	1,345	1,943	636	1,307												
19:00				1,484	574	910	1,470	575	895												
20:00				988	449	539	1,076	421	655												
21:00				704	296	408	765	304	461												
22:00				433	185	248	405	157	248												
23:00				212	90	122	228	89	139												
Total				14,870	5,828	9,042	26,455	13,138	13,317	11,077	7,183	3,894									
AM Peak Vol							2,116	1,568	566	2,107	1,557	568									
AM Peak Fct							.957	.938	.943	.932	.891	.899									
AM Peak Hr							7: 30	7: 30	11: 00	7: 30	7: 15	7: 45									
PM Peak Vol							2,289	788	1,538												
PM Peak Fct							.952	.908	.907												
PM Peak Hr							16: 45	15: 00	17: 15	:	:	:									
Seasonal Fct				1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.041									
Daily Fct				.965	.965	.965	.941	.941	.941	.925	.925	.925									
Axle Fct				.492	.492	.492	.492	.492	.492	.492	.492	.492									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

Created 06/27/2018 1:35 PM ROAD AADT 25,342 NDIR AADT 12,729 PDIR AADT 12,613

Appendix C

Crash Diagram and Summary Table



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (1 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-3



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle		Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Opposite Direction Side Swipe	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Left Turn	Head On
	Fixed Object		Rear End
	Non-Fixed Object	Right Angle	
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (2 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-4



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (3 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-5



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (4 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-6



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (5 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-7



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

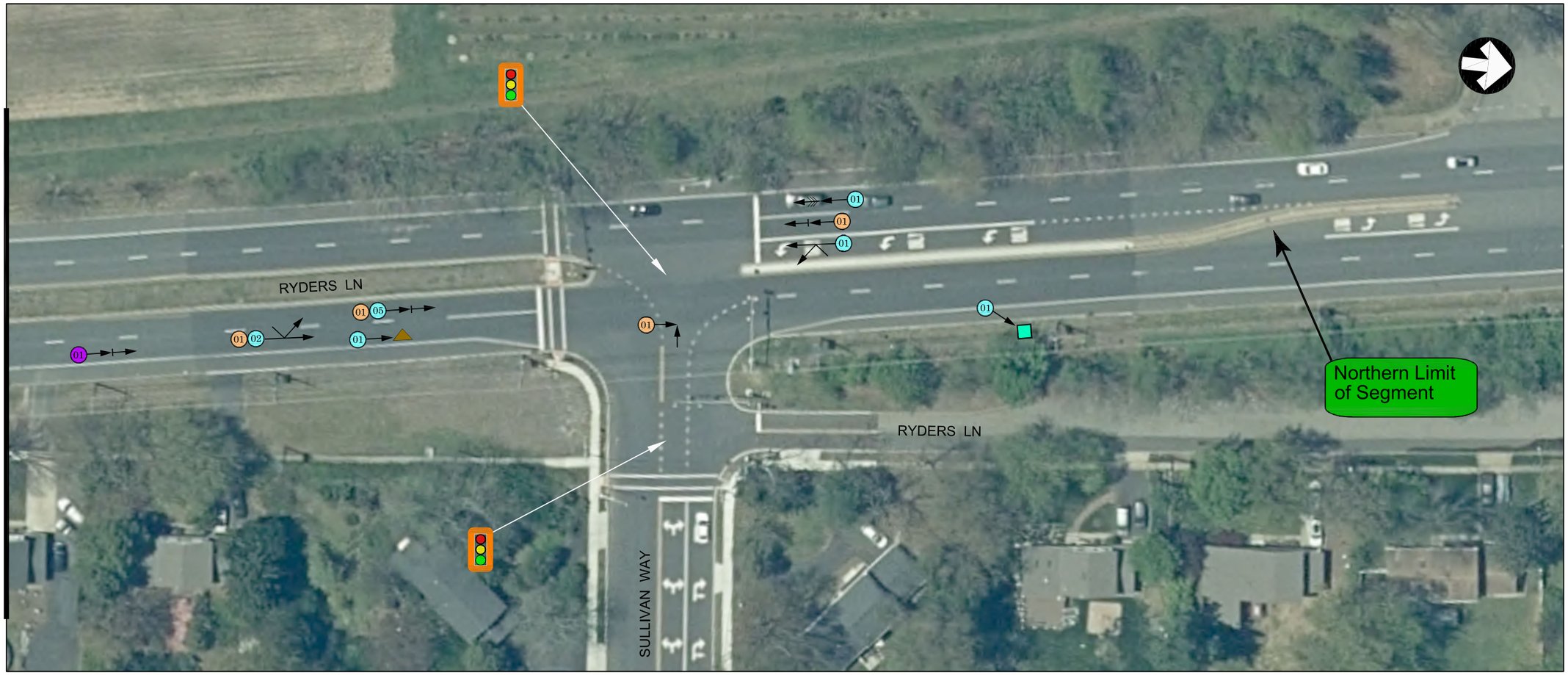
MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (6 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-8



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (7 OF 7)

CR 617 RYDERS LANE
TOWNSHIP OF EAST BRUNSWICK
AND BOROUGH OF MILTON

MIDDLESEX COUNTY ROAD SAFETY STUDY

Stantec | Scale: 1”=60' | B-9

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
I-2021-001719	02/19/21	4:21 PM	Right Angle	No Apparent Injury	Daylight	Icy
I-2021-004725	05/06/21	7:37 AM	Backing	No Apparent Injury	Daylight	Dry
I-2021-005070	05/13/21	6:06 PM	Right Angle	No Apparent Injury	Daylight	Dry
I-2021-005968	06/04/21	4:14 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
I-2021-006556	06/17/21	5:20 PM	Same Direction - Rear End	Possible Injury	Unknown	Unknown
I-2021-007668	07/15/21	5:39 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2021-009351	09/01/21	5:14 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Wet
I-2021-010731	10/06/21	6:47 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
I-2021-011249	10/18/21	6:40 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
I-2021-011645	10/28/21	9:36 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2022-000738	01/21/22	6:08 PM	Same Direction - Rear End	No Apparent Injury	Unknown	Unknown
I-2022-000949	01/27/22	11:59 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
I-2022-000960	01/27/22	5:15 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
I-2022-002824	03/18/22	4:43 PM	Right Angle	No Apparent Injury	Daylight	Dry
I-2022-003120	03/25/22	5:22 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2022-004342	04/28/22	12:04 PM	Fixed Object	No Apparent Injury	Daylight	Dry
I-2022-004629	05/06/22	11:06 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
I-2022-005143	05/22/22	7:31 PM	Fixed Object	No Apparent Injury	Daylight	Dry
I-2022-005324	05/27/22	5:40 PM	Right Angle	Possible Injury	Daylight	Wet
I-2022-005425	05/31/22	3:15 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
I-2022-007331	08/01/22	11:12 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
I-2022-007701	08/15/22	5:07 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2022-007720	08/16/22	12:33 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2022-007756	08/17/22	4:37 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2022-007901	08/23/22	5:57 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
I-2022-009319	10/12/22	7:25 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2022-009393	10/13/22	11:35 PM	Fixed Object	No Apparent Injury	Dark - Lighted	Wet
I-2022-009450	10/16/22	11:53 AM	Right Angle	Suspected Minor Injury	Daylight	Dry
I-2022-011328	12/15/22	5:20 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
I-2023-000082	01/04/23	5:24 PM	Left Turn/U Turn	Suspected Serious Injury	Dark - Lighted	Wet
I-2023-000083	01/04/23	6:07 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
I-2023-000334	01/14/23	2:09 AM	Animal	No Apparent Injury	Dark - Lighted	Dry
I-2023-001146	02/18/23	6:20 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
I-2023-001189	02/20/23	8:08 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
I-2023-001749	03/16/23	9:06 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
I-2023-001934	03/23/23	2:54 PM	Fixed Object	Possible Injury	Daylight	Wet
I-2023-002573	04/17/23	5:16 PM	Left Turn/U Turn	Possible Injury	Daylight	Dry
I-2023-002629	04/19/23	3:07 PM	Right Angle	No Apparent Injury	Daylight	Dry
I-2023-003134	05/08/23	5:19 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2023-003960	06/02/23	5:19 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2023-005315	07/10/23	2:16 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
I-2023-005320	07/10/23	5:29 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2023-005487	07/15/23	4:18 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
I-2023-005645	07/20/23	9:07 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2023-005683	07/21/23	5:37 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
I-2023-005863	07/27/23	5:20 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2023-006075	08/03/23	1:11 PM	Right Angle	No Apparent Injury	Daylight	Dry
I-2023-006687	08/22/23	9:02 AM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
I-2023-006801	08/25/23	6:17 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
I-2023-007121	09/04/23	3:21 PM	Backing	No Apparent Injury	Daylight	Dry
I-2023-007494	09/14/23	5:38 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2023-007863	09/24/23	11:05 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
I-2023-008383	10/07/23	3:35 PM	Right Angle	Possible Injury	Daylight	Wet
I-2023-008952	10/20/23	9:02 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
I-2023-009196	10/25/23	9:42 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Dry
I-2023-009459	11/01/23	2:31 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
I-2023-010414	11/27/23	5:08 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
I-2023-010448	11/28/23	2:45 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-02822	01/18/21	7:50 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-07693	02/18/21	10:23 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Snowy
21-09801	03/03/21	6:43 PM	Animal	Possible Injury	Dark - Lighted	Dry
21-09958	03/04/21	1:28 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-11807	03/15/21	4:30 PM	Right Angle	No Apparent Injury	Daylight	Dry
21-15115	04/02/21	9:54 PM	Backing	No Apparent Injury	Dark - Lighted	Dry
21-17037	04/12/21	12:00 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21-17625	04/15/21	7:58 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
21-17917	04/16/21	5:18 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21-17929	04/16/21	7:09 PM	Struck Parked Vehicle	No Apparent Injury	Daylight	Dry
21-19129	04/22/21	4:51 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
21-20857	04/30/21	4:46 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-23665	05/13/21	11:29 AM	Fixed Object	No Apparent Injury	Daylight	Dry
21-26438	05/24/21	11:51 AM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
21-44829	08/17/21	5:13 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-45917	08/23/21	3:30 PM	Right Angle	No Apparent Injury	Daylight	Dry
21-49548	09/09/21	7:59 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21-54265	10/01/21	9:04 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21-55054	10/05/21	5:14 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-55798	10/08/21	9:49 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
21-58216	10/19/21	7:59 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-59506	10/24/21	10:43 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21-59705	10/25/21	7:59 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-59768	10/25/21	4:11 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21-63915	11/13/21	3:41 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21-65071	11/18/21	2:29 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-65939	11/22/21	5:17 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21-67631	12/01/21	2:22 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
21-67966	12/02/21	7:07 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
21-68321	12/04/21	7:54 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Dry
21-70164	12/14/21	6:48 AM	Left Turn/U Turn	Possible Injury	Daylight	Dry
21-71577	12/21/21	8:04 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
22-01285	01/07/22	3:00 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Snowy
22-03199	01/17/22	6:11 AM	Animal	No Apparent Injury	Dark - Lighted	Wet
22-05096	01/25/22	5:41 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22-14175	03/03/22	6:46 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-15492	03/09/22	5:59 PM	Right Angle	Possible Injury	Dark - Lighted	Wet
22-18103	03/20/22	2:18 PM	Fixed Object	Suspected Minor Injury	Daylight	Dry
22-20994	04/02/22	12:40 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-24591	04/20/22	3:18 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-29580	05/16/22	10:15 AM	Fixed Object	No Apparent Injury	Daylight	Dry
22-45510	08/04/22	9:27 PM	Same Direction - Rear End	Suspected Serious Injury	Dark - Lighted	Dry
22-46199	08/08/22	7:45 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
22-51165	09/03/22	3:52 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
22-51476	09/05/22	1:50 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-51581	09/06/22	5:58 AM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Wet
22-51612	09/06/22	9:35 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22-52395	09/10/22	3:09 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Dry
22-54249	09/19/22	4:35 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-54882	09/22/22	1:52 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
22-55025	09/23/22	8:16 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-56481	09/29/22	3:21 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-57881	10/06/22	11:08 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
22-61610	10/24/22	5:07 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22-62403	10/28/22	6:49 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22-63873	11/05/22	5:18 AM	Animal	No Apparent Injury	Dark - Lighted	Dry
22-65666	11/14/22	2:55 PM	Backing	No Apparent Injury	Daylight	Dry
22-70923	12/15/22	3:25 PM	Right Angle	Suspected Minor Injury	Daylight	Wet
22-68658	12/01/22	4:25 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22-70947	12/15/22	5:39 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
23-02310	01/11/23	4:33 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-02743	01/13/23	10:35 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
23-03051	01/14/23	9:53 PM	Right Angle	Possible Injury	Dark - Lighted	Dry
23-03612	01/17/23	7:38 PM	Opposite Direction (Head On)	Possible Injury	Dark - Lighted	Dry
23-03940	01/19/23	8:19 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Wet
23-12793	03/04/23	4:28 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-13355	03/07/23	4:00 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-15965	03/21/23	7:54 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-18712	04/02/23	12:04 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-19290	04/05/23	11:48 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-20074	04/09/23	5:52 PM	Same Direction - Sideswipe	Possible Injury	Daylight	Dry
23-23309	04/25/23	4:11 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23-24903	05/03/23	5:12 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23-27601	05/16/23	4:19 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
23-28170	05/19/23	10:36 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
23-28794	05/22/23	4:25 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23-29301	05/24/23	9:43 PM	Fixed Object	Possible Injury	Dark - Lighted	Wet
23-29691	05/26/23	8:48 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23-31894	06/06/23	4:40 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-33164	06/13/23	5:13 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
23-37598	07/06/23	4:39 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-38317	07/10/23	12:14 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-38492	07/11/23	3:13 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-41222	07/26/23	9:02 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-44147	08/10/23	2:50 PM	Right Angle	Possible Injury	Daylight	Wet
23-45725	08/18/23	4:06 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-49919	09/07/23	9:17 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-50924	09/12/23	9:56 AM	Left Turn/U Turn	Possible Injury	Daylight	Dry

Appendix D

Local Officials, Pre-Audit Meeting Presentation

RYDERS LANE

ROAD SAFETY AUDIT

Local Officials Meeting

October 9, 2024

Introductions: County & NJTPA

- **Andrew Lappitt**
  Project Manager
- **Linda Weber**
  Planning Director
- **George Fallat**
  County Engineering
- **Andy Kaplan – NJTPA**

Middlesex County Facts

- **25 municipalities**
- **~ 830k population**
- **~ 330 miles of county roads**
- **~ 200 traffic signals**

Introductions: Consultant Team

Middlesex County + NJTPA

Adam Catherine
Principal-In-Charge

Matthew Maher
Consultant Team Project Manager

Kati DiRaimondo
Deputy Project Manager

Needs Assessment

Kush Bhagat
Task Leader

Public Involvement

Courtenay Mercer
Task Leader

Data Analysis

Timothy Tresohlavy
Task Leader

Road Safety Audits

Anthony Durante
Task Leader

Agenda

- **Purposes of Meeting**
- **Project Background**
- **What is a Road Safety Audit (RSA)?**
- **Role of Local Officials**
- **CR 617 (Ryders) Information**
- **Open Discussion about CR 617**
- **Designate RSA Team Members**
- **Logistics Plan**
- **How to Stay Involved**

Purposes of Meeting Today

1. **Gather information on corridor to undergo RSA**
2. **Share logistics plan for RSA effort**

FEDERAL HIGHWAY ADMINISTRATION'S (FHWA'S)
8-STEP ROAD SAFETY AUDIT PROCESS

1. **Select Corridors (DONE)**
2. **Assemble RSA Team (TODAY)**
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report

Project Background

- **Years of safety successes within the County thanks to road safety audits (RSAs)**
  - **Road diet/redesign of Livingston Avenue**
  - **Signalization/ADA improvements by NJ TRANSIT's New Brunswick Station**
- **Advance another five (5) RSAs on different County roadways**
- **Corridor goal:**
  Successfully conduct an RSA in your community
- **Study goal:**
  Reduce fatal and serious injury crashes in the County

LIVINGSTON AVENUE
BEFORE & AFTER





County Road Crash Stats

*Over the past 10 Years (2012-2021), on **County jurisdiction roads** per year…*

*~**5,000** crashes*

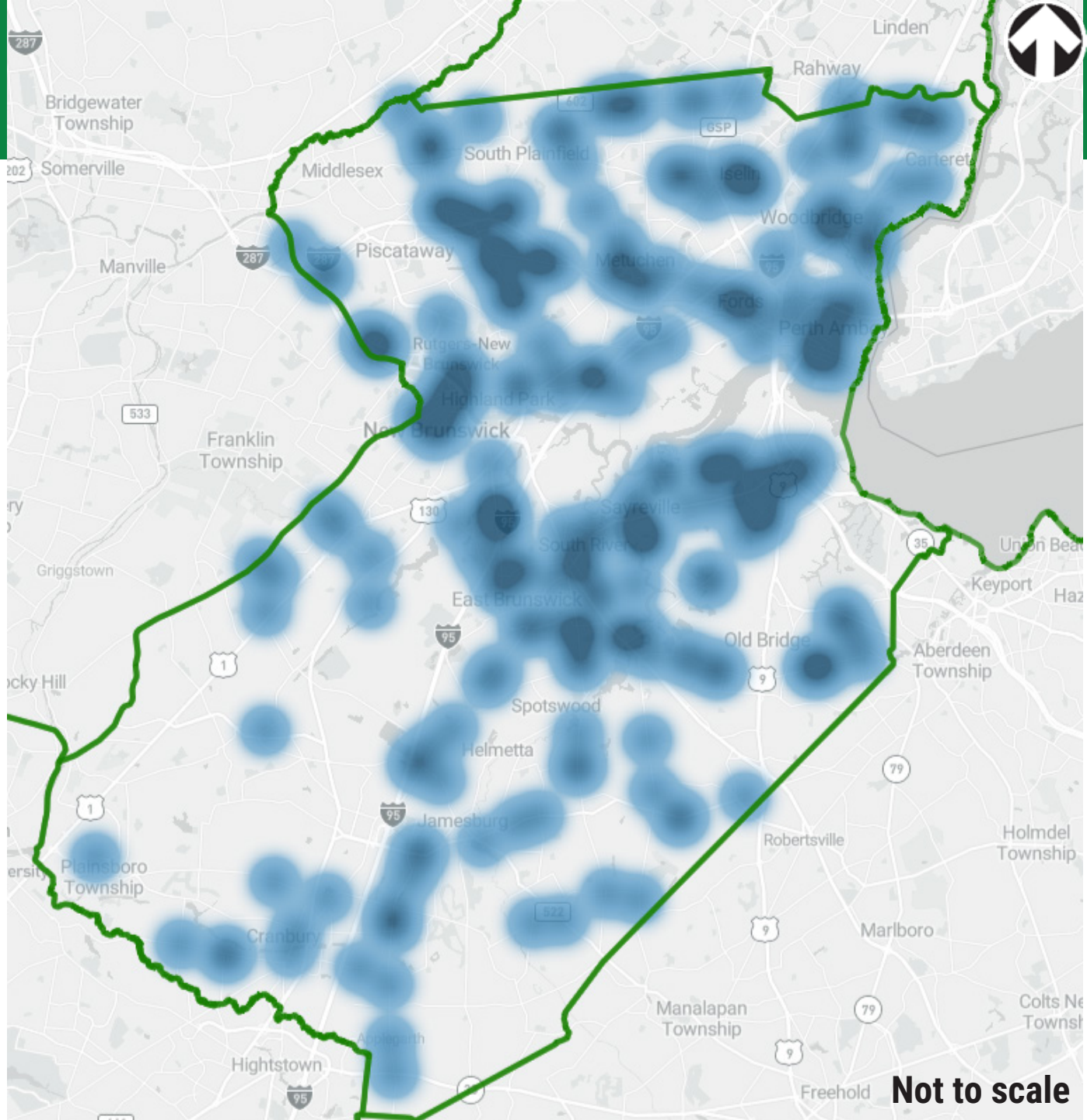
*~**27** serious injury crashes*

*~**10** fatal crashes*

*~**87** ped/bike crashes*

County road crash density map shown on the right half of screen (darker blue=more crashes)

Middlesex County Office of Planning, Ryders Lane RSA



What is a Road Safety Audit (RSA)?

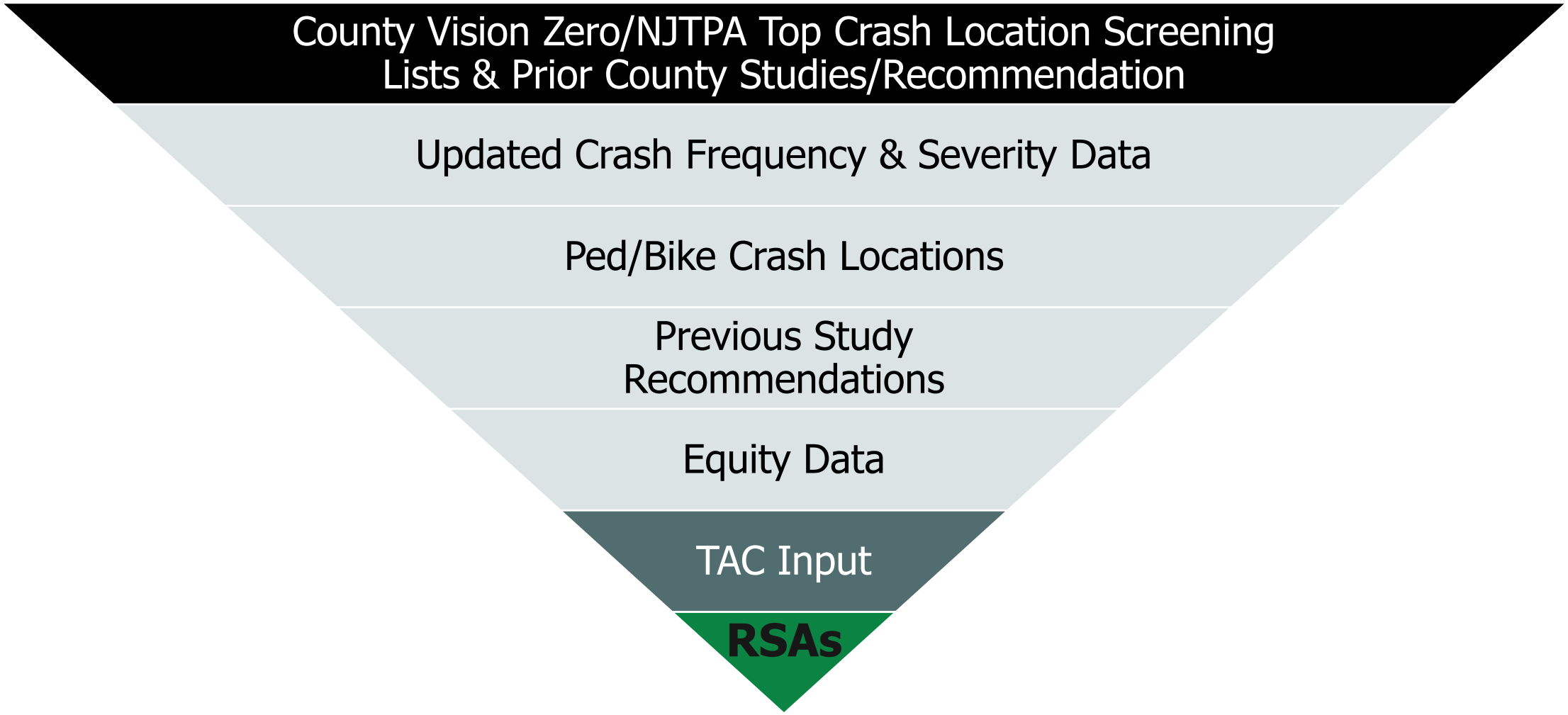
- **Safety performance evaluation by a multidisciplinary team including:**
  - **Law enforcement/EMS responders**
  - **Municipal staff and stakeholders (BOE, DPW, council, mayor, etc.)**
  - **County advocates (Keep Middlesex Moving, County Health/Safety)**
  - **Regional advisors (FHWA, NJDOT, NJTPA, NJ TRANSIT, AARP, New Jersey Bike Walk Coalition, Tri-State Trans. Campaign, etc.)**
  - **County and consultant engineers, planners, and administration**
- **Identifies crash trends/causes**
- **Proposes targeted safety improvements (policy, infrastructure, behavior, education)**

Role of Local Officials

- **Participate in 2 Local Officials Meetings:**
  - **One (1) prior to the RSA site visit to gather information important to successfully conducting the RSA, as well as discussing RSA logistics and potential participants - TODAY**
  - **One (1) after the RSA site visit to review findings and draft recommendations and discuss logistics for a public meeting – JANUARY 2025**
- **Participate in RSA**
- **Assist in planning Public Meeting**
- **Other roles:**
  - **Technical expertise**
  - **Provision of relevant studies/docs**
  - **Help with publicizing public engagement activities**

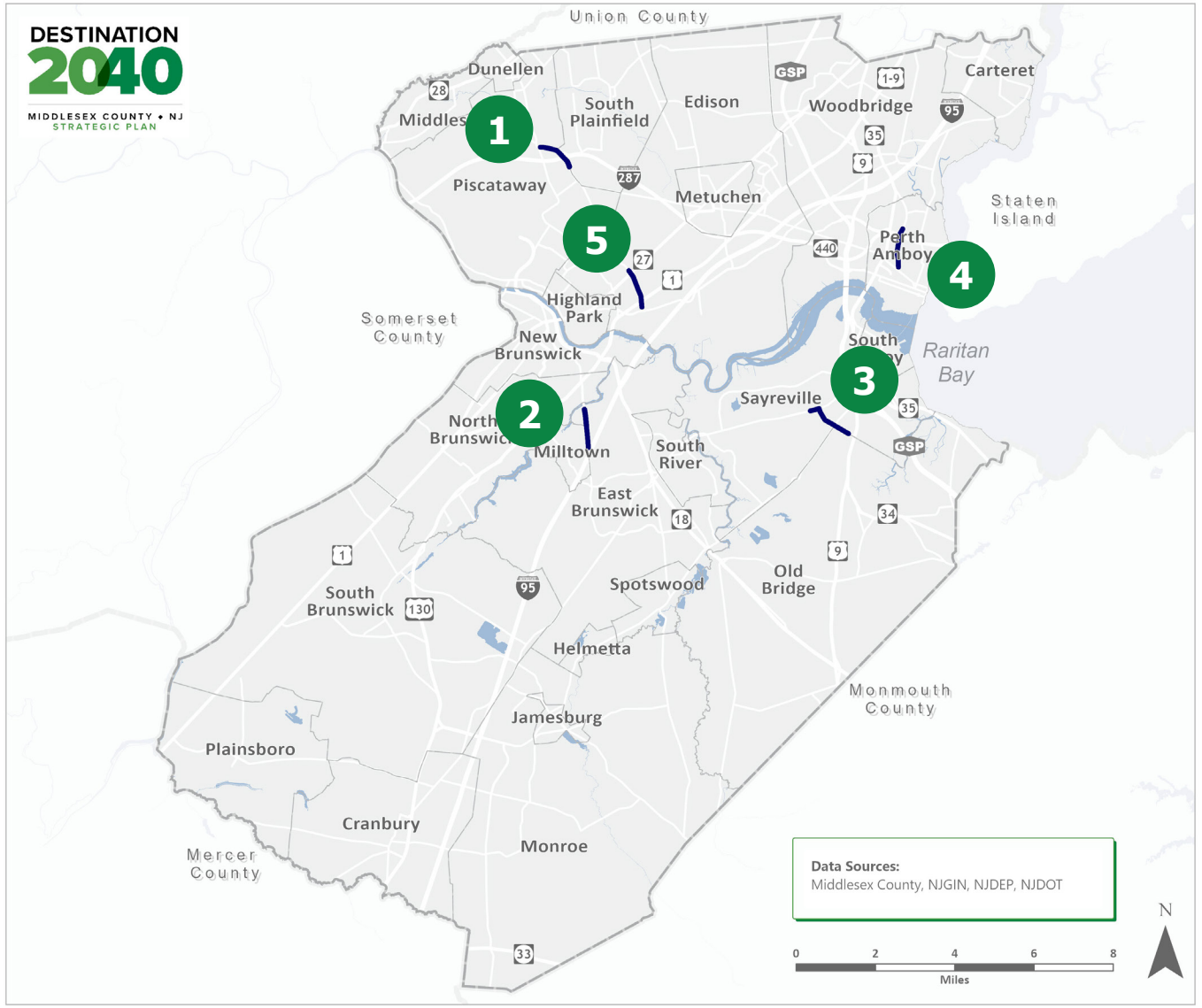


Corridor Selection



County Road Segments Selected for RSA Review

1. **CR 529 - Stelton Rd in Piscataway/South Plainfield**
2. **CR 617 - Ryders Ln in Milltown/East Brunswick**
3. **CR 673 - Ernston Rd in Sayreville/Old Bridge**
4. **CR 653 - Amboy Ave in Perth Amboy**
5. **CR 529 - Plainfield Ave in Edison**



Map 1: Road Safety Audit (RSA) Corridors

MIDDLESEX COUNTY • NJ

Middlesex County Road Safety Audits, 2024



Legend

- RSA Corridors
- Middlesex County
- Municipalities of Middlesex County
- Water Bodies

Prepared: *September 20, 2024*
By: *Middlesex County Office of Planning*

Ryders Lane

Milltown Boro/East Brunswick Township

Potential Turnpike Authority Coordination

High Crash Frequency and Severity corridor

Crash Trends Observed (2017 through 2021)

- 235 Crashes in Total (1 Fatal/5 SI)
- 1 Ped/Bike Crash
- 29% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Same Direction - Rear End (38%)
- Right Angle (26%)
- Same Direction - Sideswipe (14%)



Ryders Lane

Milltown Boro/East Brunswick Township

Potential Turnpike Authority Coordination

High Crash Frequency and Severity corridor

Crash Trends Observed (2017 through 2021)

- 235 Crashes in Total (1 Fatal/5 SI)
- 1 Ped/Bike Crash
- 29% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Same Direction - Rear End (38%)
- Right Angle (26%)
- Same Direction - Sideswipe (14%)



Open Discussion

Other than what's been presented, are there any existing studies, traffic counts, etc., for this corridor? What other data should our team be aware of for this corridor?

Open Discussion

Are there any land development applications/approvals or road improvement projects adjacent to this segment of the corridor or nearby?

Open Discussion

What are your traffic safety observations and concerns about the corridor?

Any operational and maintenance safety issues (lighting, drainage, etc.) that we should be aware of?

Immediate Need: Selecting RSA Team Members

1. Select Corridors
2. Assemble RSA Team
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report



Designate RSA Team Members

Who should we contact to participate?

- ✓ **Must haves**
  - ✓ **Public Repr.: Safety Task Force, Advocacy, Neighborhood Association**
  - ✓ **At least one municipal official to report back**
  - ✓ **Law enforcement**
  - ✓ **Engineer/planner**
- **Desired Participants**
  - **EMS responders**
  - **BOE**
  - **DPW**
  - **Councilpersons**
  - **Mayor**
  - **Consultants**
  - **Administrators**

Logistics Plan (subject to change)

- **RSA currently scheduled for Friday, October 18th, 8-11am**
- **Rain date is Saturday, October 19th**
- **Start at WilkinGuttenplan, walk north, south, and head back**
- **Corridor 1 mile in length; slightly over 2 miles of walking**
- **Materials available for note taking**
- **Photos and videos are encouraged**

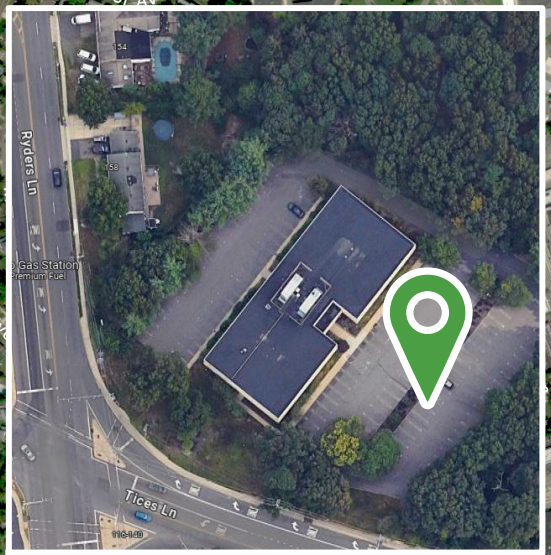
Audit Details



Walking single file at this location, narrow with no sidewalk

1. Walking northbound to Sullivan Way

2. Crossing Ryders at Tice's Lane and walking southbound



Meet/Park:

Wilkin & Guttenplan, PC:
H. Edward Wilkin
1200 Tices Lane,
East Brunswick, NJ 08816
~2-mile walk

North Brunswick Township

Milltown Borough

Rutgers Cook Campus

DeVry University

Audit Form

- Categories: Segments, Intersections, Multi-Modal, and Experiential
- Mark the appropriate column for each question
- Any additional/specific details can be recorded under the "Notes" column

Middlesex County Office of Planning, Ryders Lane RSA

Name: _____

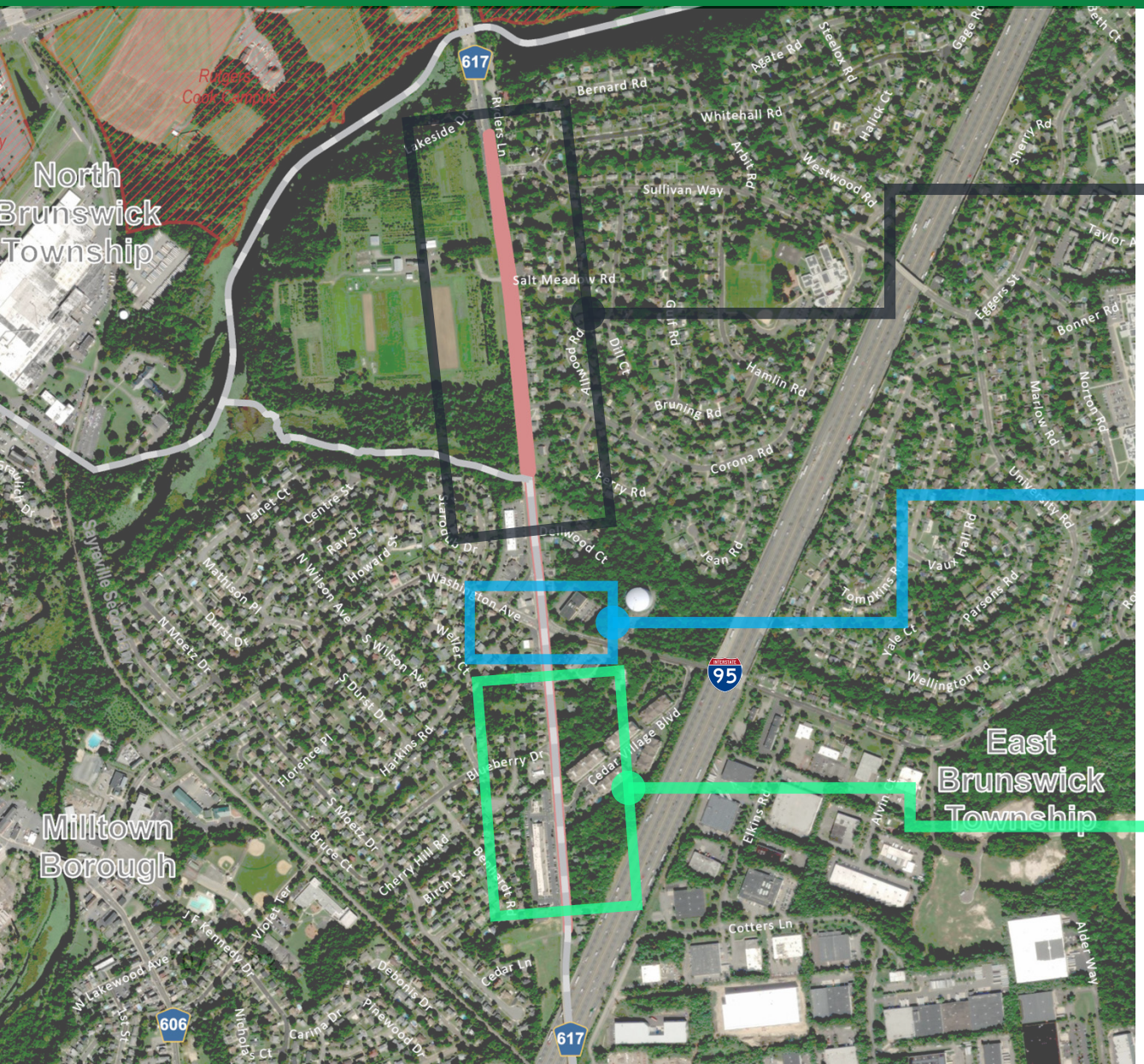
Date: _____

Corridor: _____

	Segments (between intersections)	YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

	Intersections	YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

Audit Considerations – Roadway Characteristics



- Four lanes, divided
- High speeds
- Vertical curve with crest at Salt Meadow Rd
- Sidewalk only on NB side
- Residential

- Washington Ave/Tices Lane: skewed 4-way intersection
- Downhill approach from Washington Ave

- Five lanes south of Washington/Tices
- Undivided
- High speeds
- Vertical curve with crest at Cedar Village Blvd
- Disconnected sidewalk
- Commercial, residential

What to Look for



Sidewalk Trip Hazards



Sign Visibility Blocked by Trees



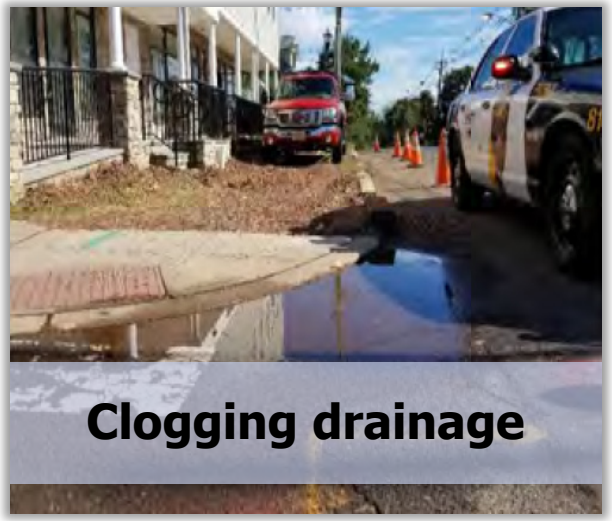
Sidewalk overgrowth (shrubs)



Signal Heads in need of upgrade



Cyclist provisions



Clogging drainage

What to Look for



No curb ramp/ crosswalk present



Faded striping/Non-compliant curb ramps



Driveway aprons too wide, lack ADA



Roadway too wide, hard to cross



Traffic calming at curve/intersection

Middlesex County Office of Planning, Ryders Lane RSA

What we saw



DRIVEWAYS



LACK OF SIDEWALKS



DRAINAGE ISSUES



SIGN VISIBILITY

What we saw



LONG CROSSINGS



VERTICAL CURVES



HIGH SPEED



SLIP LANES

Middlesex County Office of Planning, Ryders Lane RSA

Audit Considerations



COMFORTABLE CLOSED SHOES



WEATHER CONSCIOUS



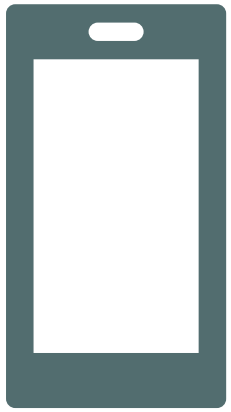
HIGH VISIBILITY VESTS

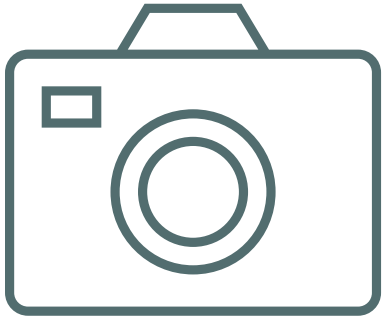
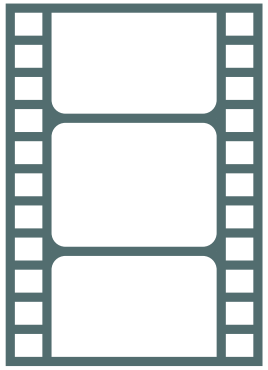


DOCUMENTING MATERIAL

How to Record Observations

- Photograph
- Pen/Pencil Paper
- Video
- Mobile Device
- Mental





How to Stay Involved

- **Help the County designate the RSA team: TODAY**
- **Conduct the RSAs with us: October**
- **Draft RSA Reports become available: December**
- **One lead contact rep. to attend next TAC: February 2025**
- **Public Meeting: Late Winter/Early Spring 2025**

Next Local Officials Meeting in January 2025

Study email contact: andrew.lappitt@co.middlesex.nj.us

MIDDLESEX
COUNTY • NJ
BOARD OF COUNTY COMMISSIONERS

Ronald G. Rios, ***Director***
Shanti Narra, ***Deputy Director***
Claribel A. Azcona-Barber
Charles Kenny
Leslie Koppel
Chanelle Scott McCullum
Charles E. Tomaro

Appendix E

Audit Materials

Name: _____

Date: _____

Corridor: _____

Segments (between intersections)		YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

Intersections		YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

	Multi-Modal	YES	NO	N/A	Notes:
26	Did you observe any bicyclists or scooterists riding along the corridor, including on the sidewalk?				
27	Are signs present to identify bus stops?				
28	Do bus stops have any amenities (shelters, seating)?				
29	Do bus stops have adequate lighting (that you can tell)?				
30	Are the bus stops accessible and free of obstructions?				
31	Are there visible pedestrian crossings near the bus stops (that you can tell)?				

	Experiential	YES	NO	N/A	Notes:
32	Do you feel safe and visible while walking or biking along the corridor?				
33	Do you feel safe and visible crossing the corridor at intersections?				

Appendix F

Audit Team

ROAD SAFETY AUDIT TEAM

Name	Organization	Pre-Audit Meeting	RSA
Joseph Criscuolo	East Brunswick Township	X	
Wade Gordon	East Brunswick Township PD		X
Mark Kataryniak	East Brunswick Township	X	X
Keith Kipp	East Brunswick Township	X	
Brian Ventura	East Brunswick Township PD		X
Frederick Carr	Milltown Borough	X	
Tom Dougherty	Milltown Borough		X
Ralph Jasionowski	Milltown Borough	X	
Christopher Johnson	Milltown Borough PD	X	X
Michael McClelland	Milltown Borough (CME Associates)	X	
Val D'Aloia	Middlesex County		X
Michael Dannemiller	Middlesex County	X	X
Andrew Lappitt	Middlesex County	X	X
Emily Link	Middlesex County	X	
Alex Zakrewsky	Middlesex County		X
Lynne Cuevas	KMM		
Christopher Gonda	KMM		
Arlene Holt	KMM		
Hannah Younes	VTC		X
Andy Kaplan	NJTPA		X
Patricia Newton	NJTPA		
Marjoly De Leon	MBI		X
Anthony Durante	MBI	X	
Peter Kremer	MBI		X
Zach Cyrelson	Stantec		X
Kati DiRaimondo	Stantec		X
Matthew Maher	Stantec	X	
Courtenay Mercer	MPA	X	
Reya Singhi	MPA	X	

Appendix G

Conceptual Plan

MILLTOWN
EAST BRUNSWICK

COUNTY OF MIDDLESEX

N.J. State Plane Grid Coordinates

SULLIVAN WAY INTERESECTION RECOMENDATIONS:

1. PERFORM A MORE TARGETED INTERSECTION IMPROVEMENT STUDY TO CONSIDER REVISING THE EXISTING INTERSECTION RECONFIGURATION TO A ROUNDABOUT OR OTHER ALTERNATIVE TO MITIGATE LEFT-TURN CONFLICTS.
2. CONSIDER LPI AT THE SULLIVAN WAY CROSSING.
3. INSTALL A HIGH-MOUNT SUPPLEMENTAL SIGNAL HEAD FOR NORTHBOUND RYDERS LANE.
4. INSTALL A PEDESTRIAN CROSSING WARNING SIGN TO ALERT DRIVERS MAKING A RIGHT ONTO SULLIVAN WAY FROM NORTHBOUND RYDERS LANE OF THE CROSSWALK AND POTENTIAL PEDESTRIAN CROSSINGS.
5. CONSIDER FEASIBILITY OF SIDEWALK INSTALLATION NORTH OF SULLIVAN WAY WITH THE GOAL OF PROVIDING A FUTURE PEDESTRIAN CONNECTION BETWEEN EAST BRUNSWICK AND NEW BRUNSWICK.



CORRIDOR WIDE NOTES:

1. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
2. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
3. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
4. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. PERFORM A SPEED STUDY ALONG THE CORRIDOR TO DETERMINE TARGETED LOCATIONS FOR TRAFFIC CALMING AND/OR ENFORCEMENT.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.
8. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES.
9. CONDUCT A DRAINAGE EVALUATION DUE TO OVERREPRESENTATION OF CRASHES UNDER WET WEATHER CONDITIONS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

RYDERS LANE (CR 617)

From North of Sullivan Way to North of NJ Turnpike

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

MILLTOWN
EAST BRUNSWICK

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
2. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
3. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
4. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. PERFORM A SPEED STUDY ALONG THE CORRIDOR TO DETERMINE TARGETED LOCATIONS FOR TRAFFIC CALMING AND/OR ENFORCEMENT.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.
8. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES.
9. CONDUCT A DRAINAGE EVALUATION DUE TO OVERREPRESENTATION OF CRASHES UNDER WET WEATHER CONDITIONS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

RYDERS LANE (CR 617)

From North of Sullivan Way
to North of NJ Turnpike

MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY
ROAD SAFETY AUDITS (2025)
CONCEPT PLANS

MILLTOWN
EAST BRUNSWICK

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
2. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
3. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
4. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. PERFORM A SPEED STUDY ALONG THE CORRIDOR TO DETERMINE TARGETED LOCATIONS FOR TRAFFIC CALMING AND/OR ENFORCEMENT.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.
8. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES.
9. CONDUCT A DRAINAGE EVALUATION DUE TO OVERREPRESENTATION OF CRASHES UNDER WET WEATHER CONDITIONS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

RYDERS LANE (CR 617)

From North of Sullivan Way
to North of NJ Turnpike

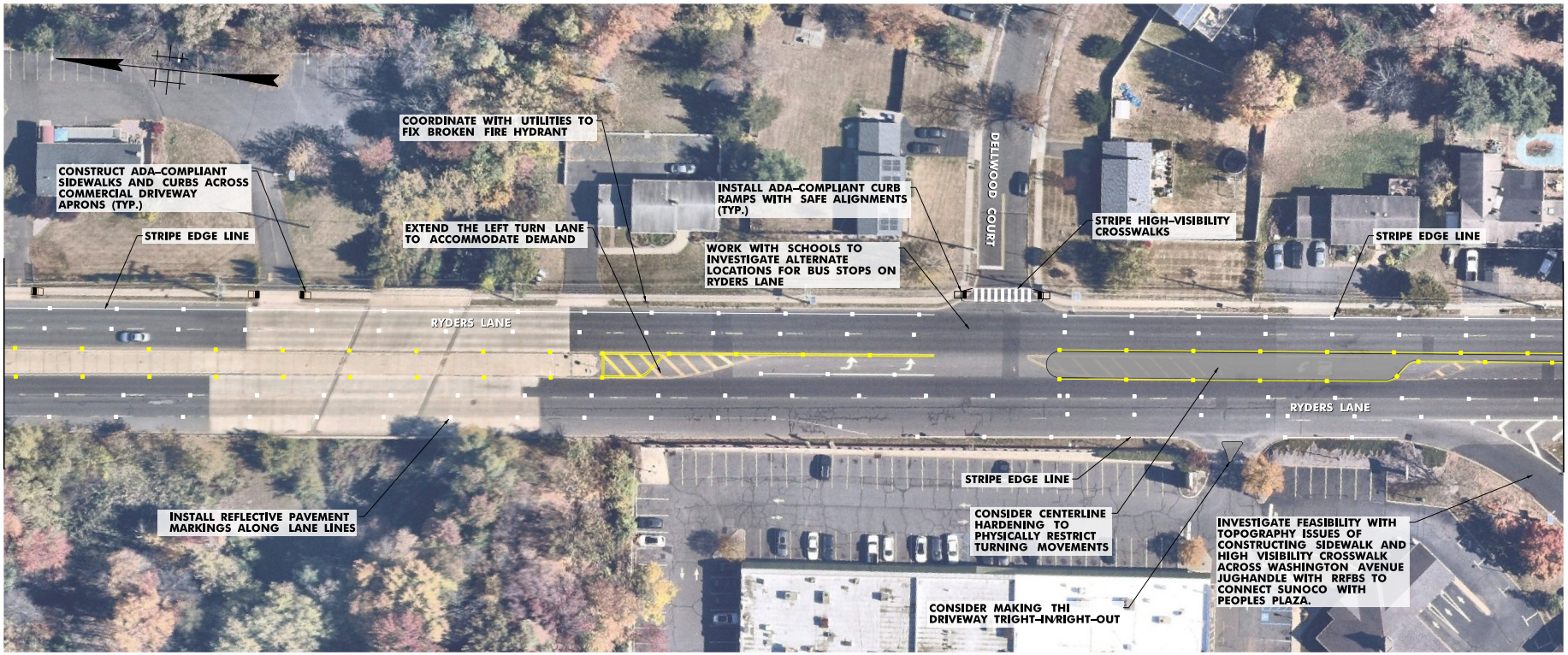
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

MILLTOWN
EAST BRUNSWICK

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
2. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
3. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
4. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. PERFORM A SPEED STUDY ALONG THE CORRIDOR TO DETERMINE TARGETED LOCATIONS FOR TRAFFIC CALMING AND/OR ENFORCEMENT.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.
8. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES.
9. CONDUCT A DRAINAGE EVALUATION DUE TO OVERREPRESENTATION OF CRASHES UNDER WET WEATHER CONDITIONS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

RYDERS LANE (CR 617)

From North of Sullivan Way
to North of NJ Turnpike

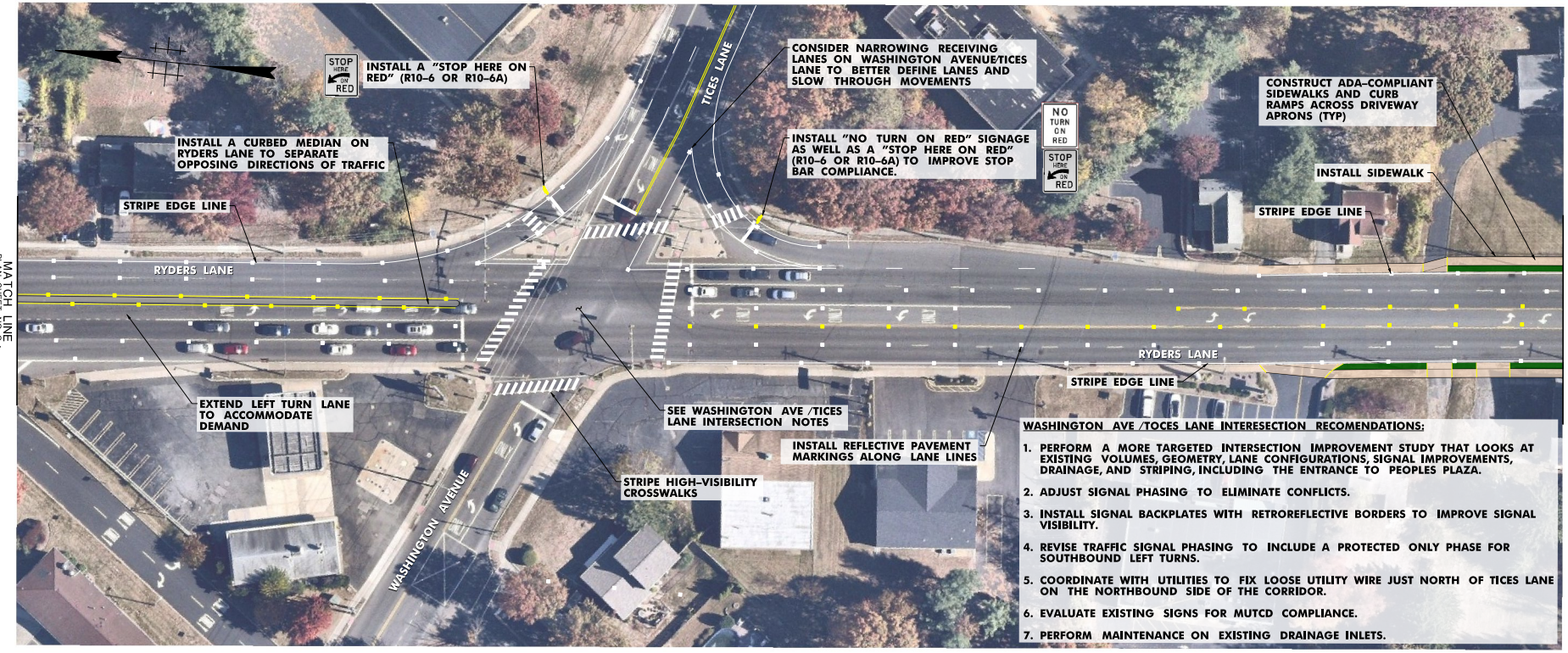
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

MILLTOWN
EAST BRUNSWICK

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
2. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
3. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
4. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. PERFORM A SPEED STUDY ALONG THE CORRIDOR TO DETERMINE TARGETED LOCATIONS FOR TRAFFIC CALMING AND/OR ENFORCEMENT.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.
8. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES.
9. CONDUCT A DRAINAGE EVALUATION DUE TO OVERREPRESENTATION OF CRASHES UNDER WET WEATHER CONDITIONS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

RYDERS LANE (CR 617)

From North of Sullivan Way
to North of NJ Turnpike

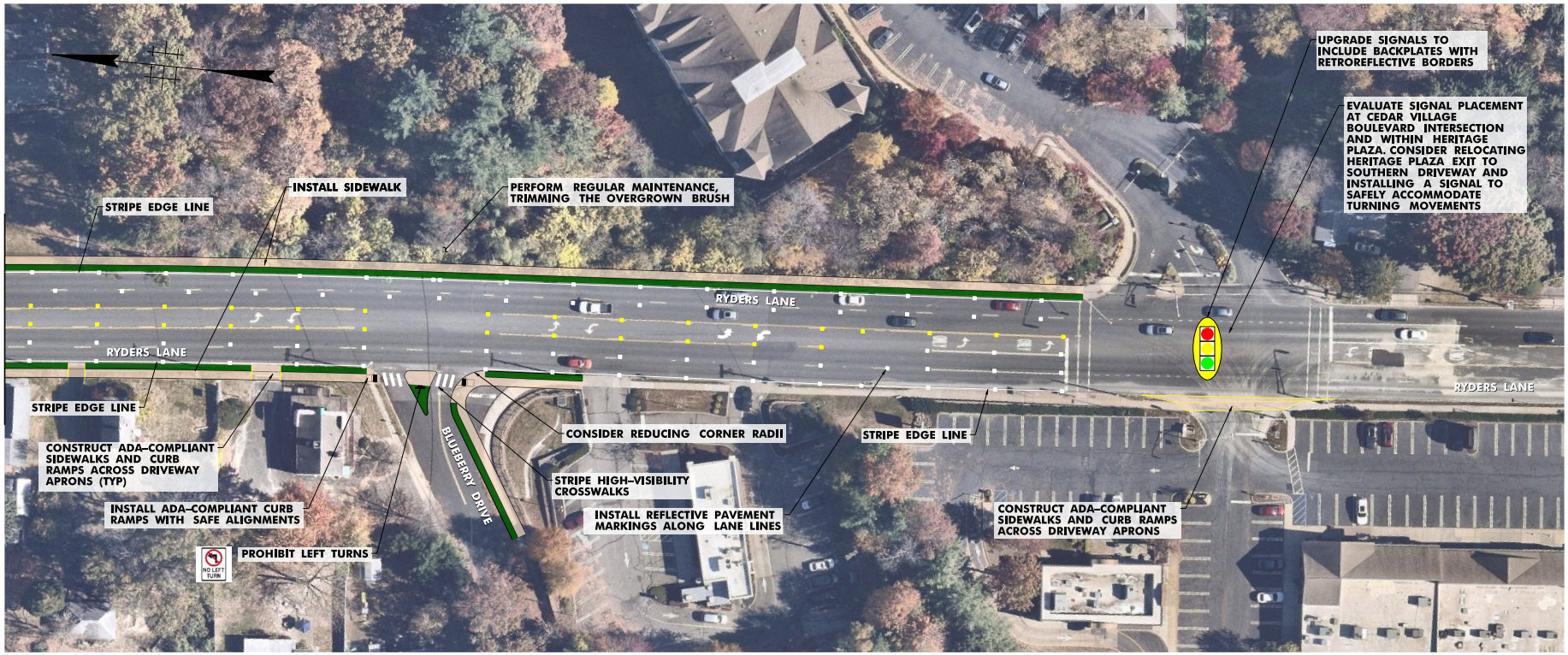
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

MILLTOWN
EAST BRUNSWICK

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
2. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
3. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
4. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. PERFORM A SPEED STUDY ALONG THE CORRIDOR TO DETERMINE TARGETED LOCATIONS FOR TRAFFIC CALMING AND/OR ENFORCEMENT.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.
8. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES.
9. CONDUCT A DRAINAGE EVALUATION DUE TO OVERREPRESENTATION OF CRASHES UNDER WET WEATHER CONDITIONS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

RYDERS LANE (CR 617)

From North of Sullivan Way to North of NJ Turnpike

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

Middlesex County

Road Safety Audit Report



Plainfield Avenue (CR 529) Edison

From Irving Street to Greenwood Avenue
MP 0.10-1.10

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY • NJ

April 2025

TABLE OF CONTENTS

Executive Summary ..... **iv**
1 INTRODUCTION **1**
1.1 Project Need 1
1.2 Site Selection 2
1.3 What is a Road Safety Audit (RSA)? 4
2 EXISTING CONDITIONS **5**
2.1 Study Location 5
2.2 Land Use 5
2.3 Community Profile 7
2.4 Roadway Characteristics 9
2.5 Traffic Volumes 9
2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations 9
2.7 Transit Service 9
2.8 Stakeholders 9
2.9 Outreach Efforts 10
3 CRASH FINDINGS **11**
3.1 Crash Types 11
3.2 Crash Severity 13
3.3 Temporal Trends 13
3.4 Roadway Surface & Lighting Conditions 15
3.5 Near Miss Analysis 16
3.6 Crash and Near Miss Data Finding Summary 17
4 RSA LOGISTICS **18**
4.1 Audit Schedule 18
4.2 Audit Participants 18
5 IDENTIFIED ISSUES & OBSERVATIONS **19**
5.1 Corridor-wide 19
5.2 Location-specific 24
6 FINDINGS & RECOMMENDATIONS **27**
6.1 Implementation Matrix (Recommendations) 27
6.2 Potential Funding Sources 34
6.3 Conceptual Plan 37
7 CONCLUSION **38**

LIST OF TABLES

Table 1. Equity Analysis Factors for Edison and Middlesex County. Source: 7
Table 2. Plainfield Avenue (CR 529) top overrepresented and reported crash types..... 13
Table 3. Plainfield Avenue (CR 529) crashes by severity. 13
Table 4. Plainfield Avenue (CR 529) crashes by roadway surface conditions. 15
Table 5. Plainfield Avenue (CR 529) crashes by light conditions. 16
Table 6. Plainfield Avenue (CR 529) intersection near misses by mode and PET..... 16
Table 7. Implementation Matrix legend 27
Table 8. Plainfield Avenue recommendations. 28

LIST OF FIGURES

Figure 1. Study area land use map.....iv
Figure 2. Map of RSA corridors. 3
Figure 3. Eight-Step RSA Process, adapted from the FHWA. 4
Figure 4. Plainfield Avenue corridor land use map. 6
Figure 5. Plainfield Avenue equity analysis map. 8
Figure 6. Plainfield Avenue (CR 529) crashes by type. 12
Figure 7. Plainfield Avenue (CR 529) crashes by month of the year. 14
Figure 8. Plainfield Avenue (CR 529) crashes by day of the week. 14
Figure 9. Plainfield Avenue (CR 529) crashes by time of day. 15
Figure 10. Plainfield Avenue (CR 529) near-miss example. 16

APPENDICES

Appendix A – Straight Line Diagram
Appendix B – Traffic Data
Appendix C – Crash Diagram
Appendix D – Local Officials, Pre-Audit Meeting Presentation
Appendix E – Audit Materials
Appendix F – Audit Team
Appendix G – Conceptual Plan

EXECUTIVE SUMMARY

The Middlesex County Road Safety Audits (RSAs) were conducted on five one-mile-long County roadway corridors throughout the month of October 2024, advancing the County's Vision Zero Action Plan goal to address and reduce serious injuries and fatalities. The study was funded through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), which assists subregions in refining and developing transportation improvement strategies consistent with the Long Range Transportation Plan (LRTP) and regional planning goals.

The five corridors were selected using several factors, including crash data analysis, equity factors, and prior studies. The audits followed the Federal Highway Administration's (FHWA) RSA process, identifying opportunities for safety improvements for all road users. Plainfield Avenue (County Route 529) in Edison was one of the five corridors selected for the audits. The corridor extends from Irving Street (MP 0.10) south of Route 1 to north of Greenwood Avenue (MP 1.10).

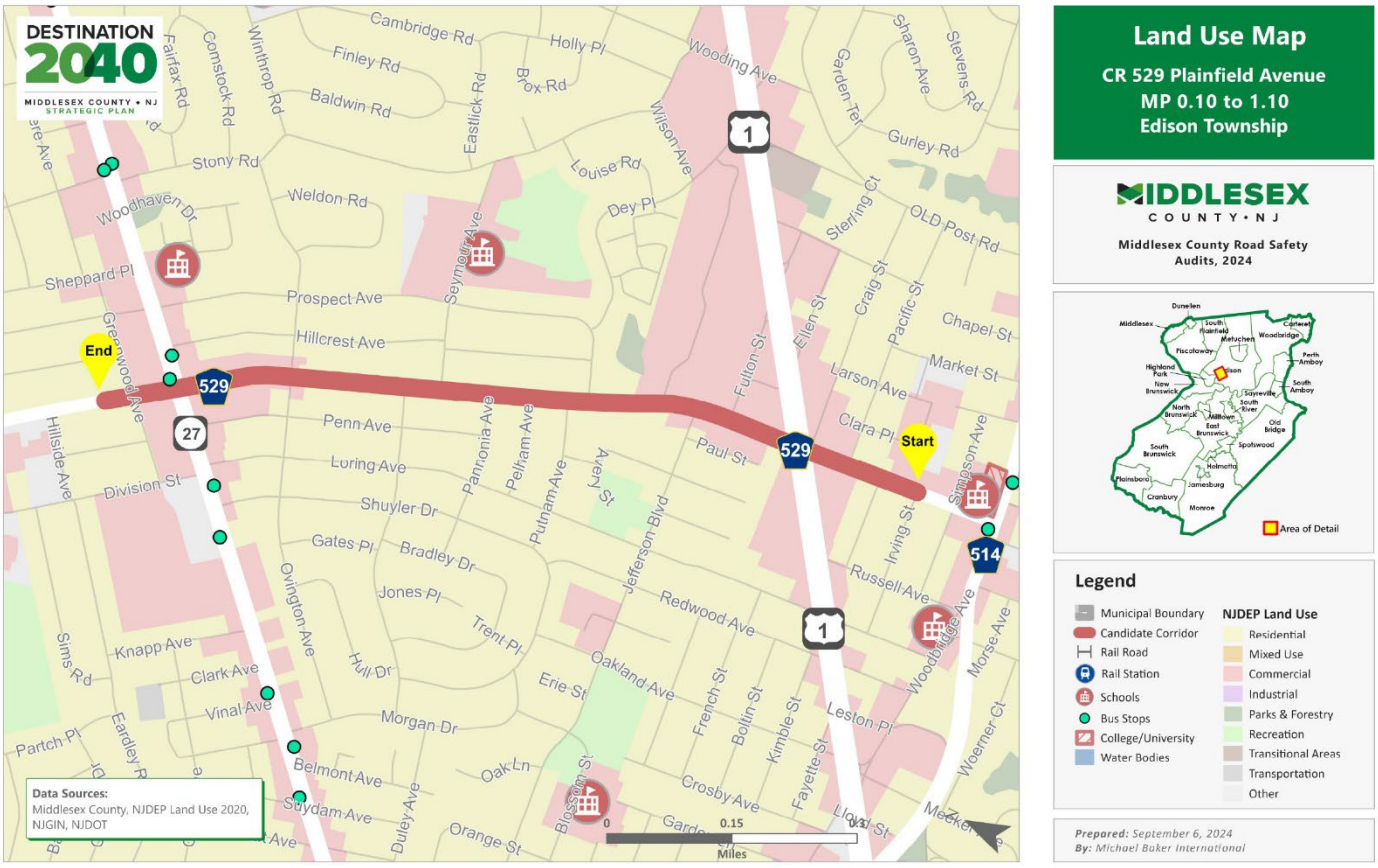


Figure 1. Study area land use map.

The Plainfield Avenue pre-audit briefing took place at the Local Officials Meeting via Microsoft Teams on October 16th, 2024. The field visit and post-audit debrief were conducted on Thursday, October 24th, 2024. Participants included Middlesex County staff, the consultant team, municipal staff, representatives from the NJTPA and Keep Middlesex Moving (KMM) Transportation Management Association (TMA), and volunteers from AARP. Participants were given an RSA prompt list to help the team identify and document any potential safety issues and to facilitate discussion of safety concerns and potential improvements. Following the in-person field audit, the team convened outside the Edison Public Library: Main Branch, to discuss and record observations.

The recommendations in this memo (Section 6 - Findings & Recommendations) are based on existing conditions analysis, field observations, post-audit discussion, and County staff comments. Recommendations include:

- Considering bike lanes, providing a connection to the Edison Train Station, just north of the corridor;
- Striping edge lines on Craig Street to narrow and define the receiving lane from Route 1;
- Considering one additional Rectangular Rapid Flashing Beacon (RRFB) on Plainfield Avenue between Prospect Avenue and Pelham Avenue;
- Reconstructing all corner curbs with fully ADA-compliant curb ramps and stripe high-visibility crosswalks at the Plainfield Avenue and Route 27 intersection; and
- Considering centerline hardening to physically restrict all left turns at the Greenwood Avenue intersection.

The recommendations in this report are a starting point in reimagining a safer corridor, reflecting the ideas and suggestions of the RSA team, and should be developed further. Roadway recommendations should be evaluated and designed for the roadway context by Middlesex County or the appropriate jurisdiction according to applicable codes, standards, and best practices. Recommendations for education or enforcement strategies will need to be developed further by appropriate entities.

1 INTRODUCTION

Through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), Middlesex County conducted Road Safety Audits (RSAs) on five one-mile-long roadway corridors throughout the County, identifying potential safety issues for all road users and outlining strategies to mitigate crash occurrence and severity. RSAs are in alignment with the County's Vision Zero Action Plan initiative. The process followed the Federal Highway Administration's (FHWA) framework for RSAs. One of the corridors selected for the RSA was County Route 529, Plainfield Avenue, from Irving Street (MP 0.10) to Greenwood Avenue (MP 1.10), in Edison.

This RSA report provides background information on the corridor, including the basis for corridor selection and other pertinent data such as surrounding context and land uses, multimodal inventory, crash data, crash analysis, summaries of the pre- and post-audit meetings, and key issues identified during the audit. The in-person field audit observations and the corridor data findings were used to generate a series of safety recommendations. Recommendations are presented in this report within an implementation matrix, which consists of estimated implementation timeframes, responsible agency/agencies, order of magnitude implementation costs, implementation priority, and available funding sources.

The RSA report also includes a conceptual "sketch" or "planning-level" plan showing the recommended physical design elements for the corridor. The plan illustrates potential future conditions for Plainfield Avenue based on the RSA recommendations. Please note that implementing the recommendations outlined in this report requires professional engineering services to prepare the applicable design and construction documents.

1.1 Project Need

In 2022, Middlesex County adopted the Vision Zero Action Plan to reduce fatal and serious injury crashes on County roads. The Plan uses the Safe System framework, proposing actions that support each of the Safe System objectives: safer people, safer roads, safer vehicles, safer speeds, and post-crash care. Road safety audits are an action item in the Safe Roads category of the Action Plan's projects and strategies.

Two previous RSAs in Middlesex County— Livingston Avenue and the New Brunswick Train Station— have resulted in significant safety improvements in the City of New Brunswick, including a road diet and redesign of Livingston Avenue. Similarly, the County's goal is to conduct these additional five RSAs on County roadways to identify safety recommendations in pursuit of the County's Vision Zero pledge to eliminate traffic fatalities and serious injuries within the County by 2040.

1.2 Site Selection

County Route 529, Plainfield Avenue corridor was selected from a list of twenty candidate corridors through a comprehensive analysis of the top crash segments for the County from NJTPA's Network Screening Lists, utilizing crash data, prior studies, and equity data as a basis for comparison and selection. The twenty candidate corridors were then narrowed to ten locations, eliminating the corridors with recent construction work, currently undergoing a study or design project. Finally, the five RSA locations were picked based on input from the Technical Advisory Committee (TAC) and discussions with the County's Department of Transportation, consisting of the Offices of Engineering and Planning. The following corridors, shown in **Figure 2**, were selected for the RSA study:

1. Stelton Road (CR 529), MP 4.17-5.17, in Piscataway and South Plainfield
2. **Plainfield Avenue (CR 529), MP 0.10-1.10, in Edison**
3. Amboy Avenue (CR 653), MP 0.08-1.08, in Perth Amboy
4. Ryders Lane (CR 617), MP 4.90-5.90, in Milltown and East Brunswick
5. Ernston Road (CR 673), MP 0.00-1.00, and Washington Road (CR 535), MP 30.27-30.50, in Sayreville and Old Bridge

Plainfield Avenue was selected due to its high ranking for pedestrian and bicycle crashes, and it was included in prior planning studies. On NJTPA's 2023 Screening Lists, Plainfield Avenue ranks 17th on the Middlesex County Roadway Corridors List, and 1st on the Intersections List (Plainfield Avenue and Greenwood Avenue).

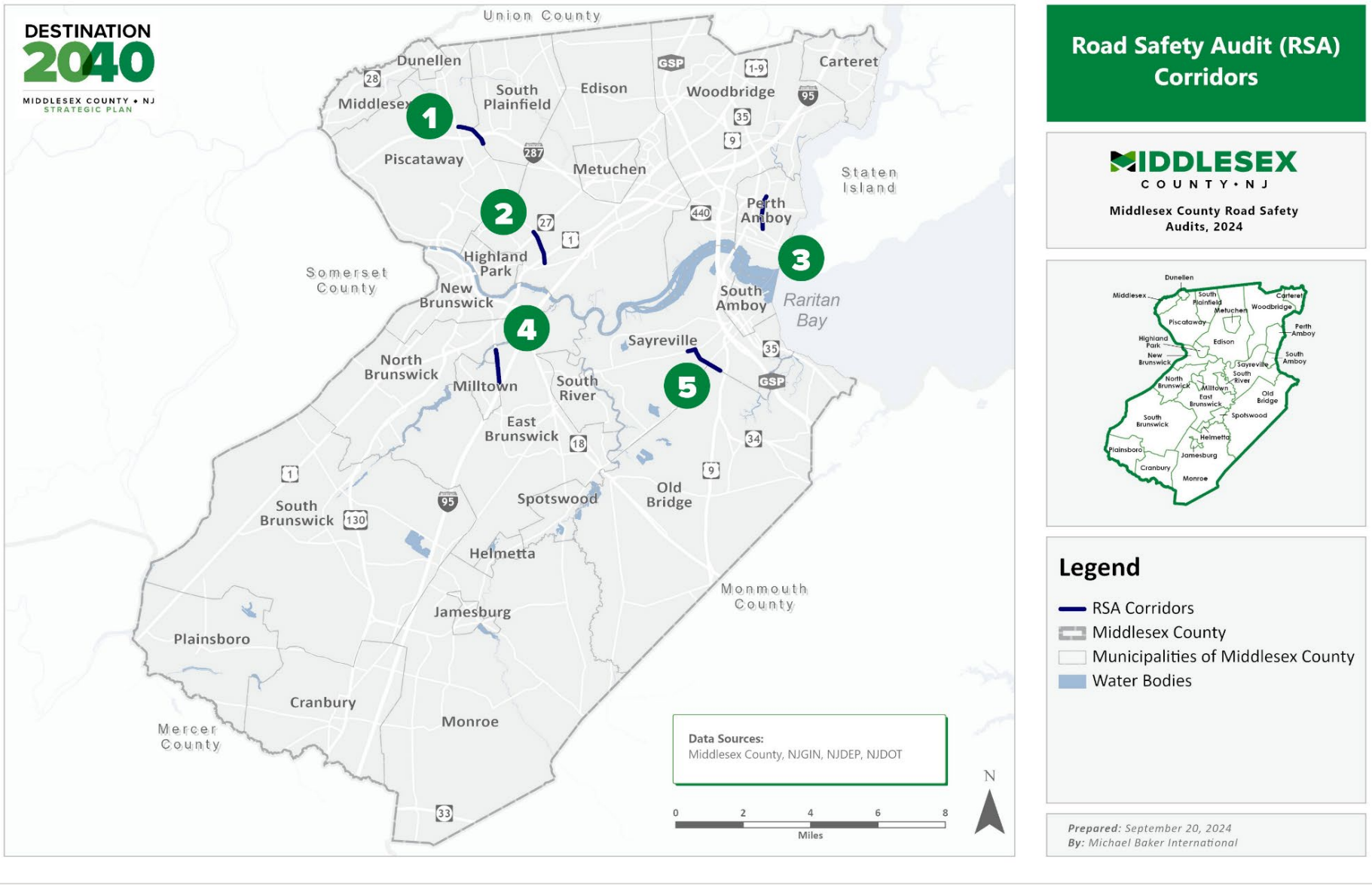


Figure 2. Map of RSA corridors.

1.3 What is a Road Safety Audit (RSA)?

FHWA defines an RSA as the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for safety improvements for all road users.

The independent multidisciplinary team may include professionals from various disciplines, including engineering, planning, emergency services, law enforcement, public works, and advocacy staff.

RSAs are one of the FHWA's Proven Safety Countermeasures[1] (PSC), which include strategies deployed to reduce roadway fatalities and serious injuries. The RSA process has been demonstrated to result in a 10 to 60 percent reduction in total crashes for the audit location, due to safety recommendations and implementation of safer designs. See **Figure 3** for the eight steps for conducting an RSA.



Figure 3. Eight-Step RSA Process, adapted from the FHWA.

RSAs consider all road users by assessing existing and potential safety concerns on the corridor or intersection for all modes of transportation. The RSA process then recommends strategies to eliminate or mitigate the identified safety concerns. RSAs can be performed at any stage of a project - from planning to construction - although they are encouraged early in the process to allow for ample opportunities to incorporate recommendations into conceptual designs. RSAs produce a formal report that requires a formal response from the road owner.

[1] https://highways.dot.gov/safety/data-analysis-tools/rsa/road-safety-audits-rsa, accessed December 4, 2024

2 EXISTING CONDITIONS

2.1 Study Location

The Plainfield Avenue (CR 529) study area is a one-mile-long corridor from Irving Street (MP 0.10) to just north of Greenwood Avenue (MP 1.10), in the Township of Edison. A Straight-Line Diagram (SLD) of Plainfield Avenue is provided in **Appendix A**. The corridor begins just south of Route 1 and continues northbound, terminating approximately one block north of Route 27.

2.2 Land Use

Land uses along the Plainfield Avenue corridor are primarily residential and suburban, lined with single-family homes (**Figure 4**). Commercial areas along the corridor are clustered around Route 1 and Route 27, with large warehouses located north and northeast of the corridor generating truck trips along Plainfield Avenue. The Thomas Jefferson Middle School is located just north of the corridor limits on Division Street, and the NJ Transit Edison Northeast Corridor commuter rail station is located less than half a mile north of the corridor.

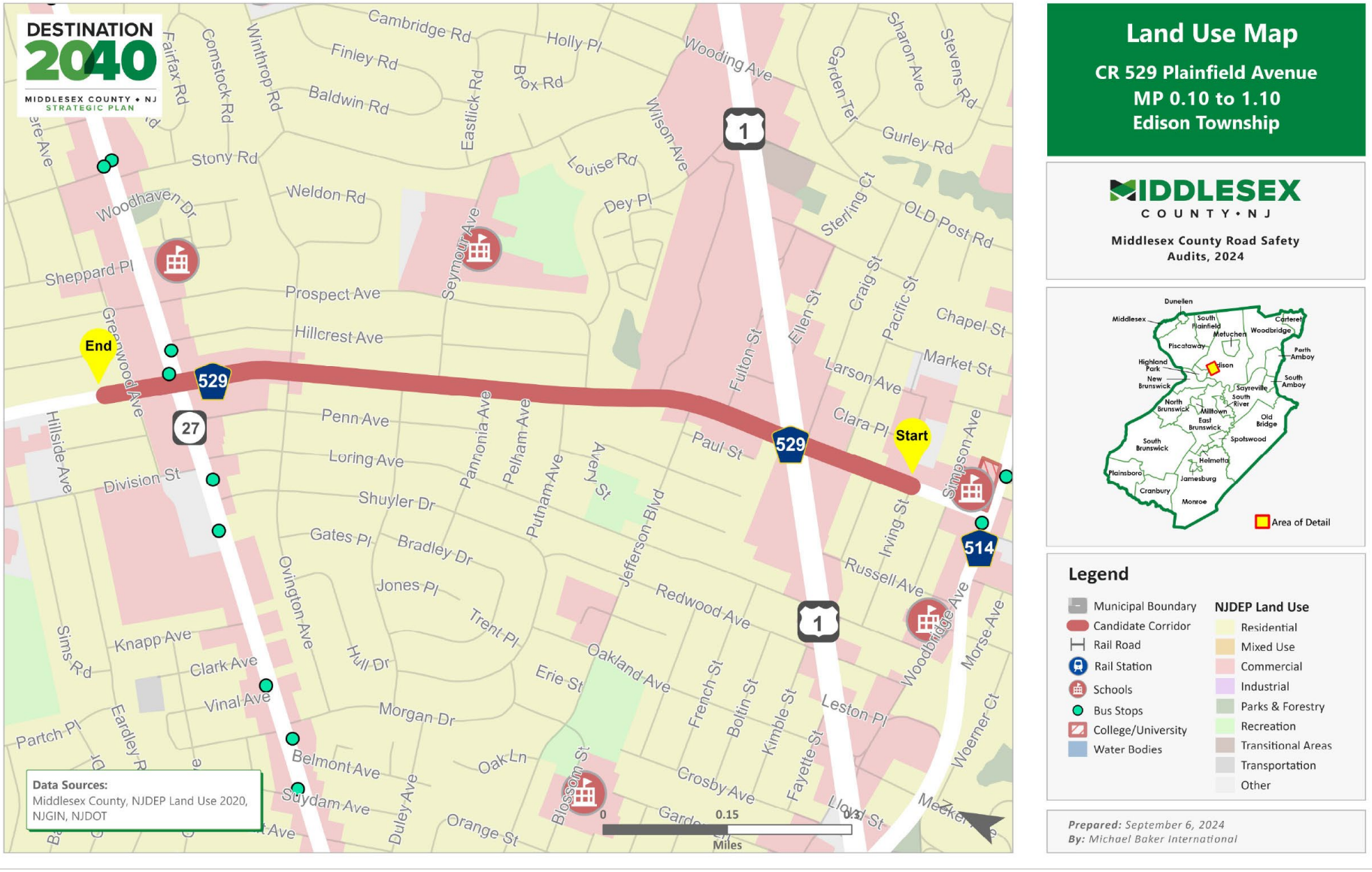


Figure 4. Plainfield Avenue corridor land use map.

2.3 Community Profile

Demographic and socioeconomic data from the American Community Survey (ACS) were used to identify Environmental Justice populations while also providing points of comparison to the County as a whole, based on NJTPA's Equity Analysis methodology. Data from the 2018-2022 ACS was sourced from the U.S. Census for Edison and Middlesex County. The summary data from nine equity analysis factors is listed in **Table 1**, with percentages in bold denoting the equity factors where Edison had higher rates than Middlesex County as a whole and percentages in light gray indicating the equity factors where Edison had lower rates than the County. Edison has a higher rate of minority, foreign-born, and young residents (between the ages of 5 and 17), a lower rate of low-income and zero-vehicle households, and residents with a disability. The lower rate of zero-vehicle households in Edison is likely attributed to the more suburban character of the municipality.

Table 1. Equity Analysis Factors for Edison, Middlesex County, and the NJTPA Region. Source: US Census ACS 2018-2022.

	Edison	County	NJTPA Region
Minority	**73.1%**	60%	49.0%
Foreign Born	**44.9%**	34.1%	26.5%
Low Income	14.0%	18.7%	21.3%
Limited English Proficiency	16.1%	15.7%	13.7%
Age 5 to 17	**18.0%**	16.1%	16.1%
65 Years and Over	15.0%	15.4%	16.4%
Disability	7.9%	9.6%	9.8%
Female Population	49.6%	50.3%	50.7%
Zero Vehicle Households	6.1%	8.1%	12.1%

An overall equity composite score was then calculated for the Plainfield Avenue corridor (see **Figure 5**) based on NJTPA's Equity Analysis Methodology, with the data displayed across five composite score categories from low to high, ranging from the lowest (Well Below Average) to Average to the highest (Well Above Average). The study area census tracts range from "Below Average" to "Average."

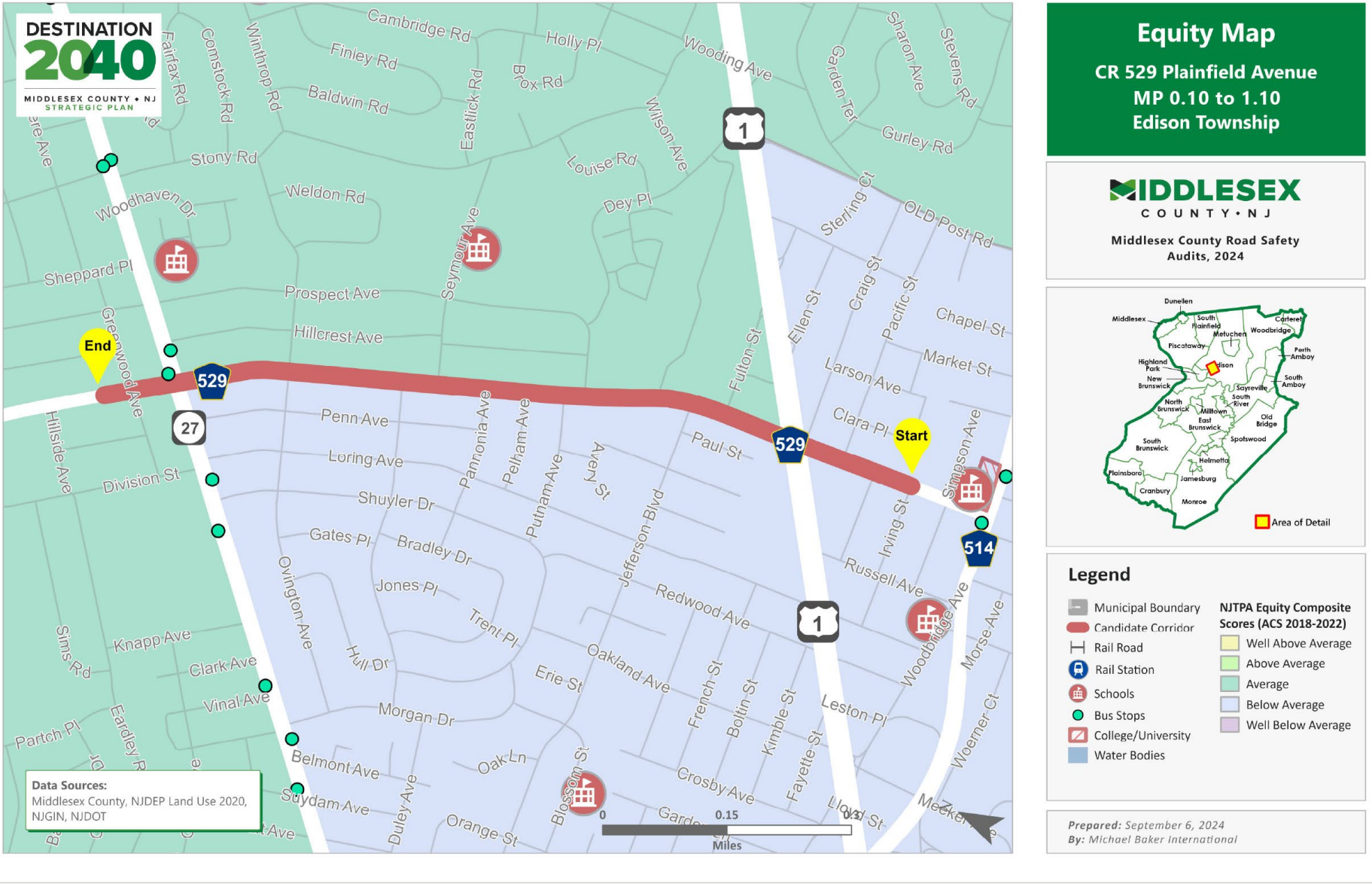


Figure 5. Plainfield Avenue equity analysis map.

2.4 Roadway Characteristics

Plainfield Avenue is an undivided urban minor arterial south of Route 1, and an urban principal arterial north of Route 1, with two motor vehicle travel lanes and no on-street parking. The posted speed limit is 35 mph throughout. There are three signalized intersections (Route 1, Jefferson Boulevard, Route 27) and 13 unsignalized intersections with stop control on the minor approaches.

2.5 Traffic Volumes

Traffic data available from NJDOT showed a traffic count of 5,483 in 2019 on Plainfield Avenue (Station ID 091210). The count station is located south of Route 1, by Irving Street, on a segment of Plainfield Avenue that typically experiences lower vehicular volumes. Traffic volume data is included in **Appendix B**.

2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations

Plainfield Avenue has a continuous sidewalk network on both sides of the road within the study area limits, with the exception of the northbound side of Plainfield Avenue between Ovington Avenue and Route 27, which contains various parking lots abutting the roadway with no sidewalk or buffer area. There are residential driveways present throughout, and wider commercial driveways close to the Route 1 and Route 27 intersections.

There are no existing dedicated bicyclist accommodations on Plainfield Avenue. When using the NJTPA's Level of Bicycle Compatibility (LBC) analysis, which rates the roadway network on a scale from one to five, indicating the traffic stress it imposes on bicyclists, Plainfield Avenue has an LBC score of 4. These roads are comfortable for very skilled cyclists and are generally characterized by six or more lanes, or at least four lanes with no shoulder, and speed limits greater than 35 mph.

2.7 Transit Service

Plainfield Avenue has no existing bus service along the corridor; however, there are NJ TRANSIT stops on Route 27 close to the Plainfield Avenue intersection for bus line 810, with service to New Brunswick, Highland Park, the Metuchen rail station, Menlo Park Mall, and the Woodbridge Center Mall, with a frequency of one bus per hour, operating between 6:00 a.m. and 10:00 p.m.

2.8 Stakeholders

The RSA team worked in collaboration with a Technical Advisory Committee (TAC) and local officials. The TAC served as a technical resource to the project team, providing necessary background documentation and insights about existing conditions. Members of the TAC

included county, regional, and state governmental staff, and members of community-based organizations. Similarly, the project team met with municipal representatives of each selected corridor prior to the RSAs for their insights on the existing conditions, including observed or known issues and potential opportunities for each corridor.

2.9 Outreach Efforts

The RSA outreach efforts were launched with a Public Engagement Plan (PEP) outlining key project team members and strategies to engage the local community, neighborhood groups, stakeholders, and local officials. The goal is to reach a wide range of audiences, including members of the public who have traditionally been underrepresented, to have an opportunity to understand the purpose and goals of the RSAs and provide input during the process.

Public outreach will consist of in-person engagement events and digital communications, including a project website and social media posts. The project website (http://www.middlesexcountynj.gov/roadsafety) contains the most up-to-date content, such as project background, opportunities to participate in the process, current study status, milestones, and draft and final reports. Social media posts will provide pertinent information in a more widespread format and link to the project website to drive additional feedback.

Anticipated engagement events include three TAC meetings and 10 local officials meetings, two for each of the chosen corridors. The first set of local officials meetings was conducted before the RSAs with each municipality. Public meetings will be held for each corridor for local community members and stakeholders. These meetings will be structured in an “open house” style format, allowing participants to engage more informally with project team members and providing opportunities for in-depth responses to questions.

3 CRASH FINDINGS

The following sections summarize key crash findings for the Plainfield Avenue (CR 529) corridor. Crash data was obtained from NJDOT's Safety Voyager and Numetric for a five-year period, from the beginning of January 2019 to the end of December 2023, for pedestrian and bicycle crashes, and a three-year period, from the beginning of January 2021 to the end of December 2023, for motor vehicle crashes. Crash reports were requested from the Township of Edison for the case (incident) numbers listed in the combined dataset, as well as any additional crash reports in the study area that the municipality held. The crash narrative and diagram included in the NJ-TR-1 form, as completed by the on-scene law enforcement, provided detailed accounts of the incident.

During the study period, there were 370 reported crashes within the study area. Crashes are summarized by type, severity, temporal factors, and roadway surface and lighting conditions, and compared to countywide crash data. The following safety issues were identified based on overrepresented crash characteristics when compared to countywide data:

- Right angle crashes;
- Pedalcyclist crashes;
- High proportion of crashes resulting in an injury; and,
- Crashes occurring from 11 am to 4 pm and 5 to 6 pm.

A near-miss analysis was also performed at the Plainfield Avenue and Greenwood Avenue intersection to help better understand the existing conflicts and patterns at the intersection with the highest number of crashes within the study area. A crash diagram and summary table can be found in **Appendix C**. For more detailed crash information, including data analysis methodology, please see the Plainfield Avenue Existing Conditions Report.

3.1 Crash Types

The most prevalent crash types on Plainfield Avenue were Right Angle (41.9 percent), Same Direction – Rear End (32.7 percent), and Same Direction – Sideswipe (14.1 percent). See **Figure 6** for a full list of crash types.

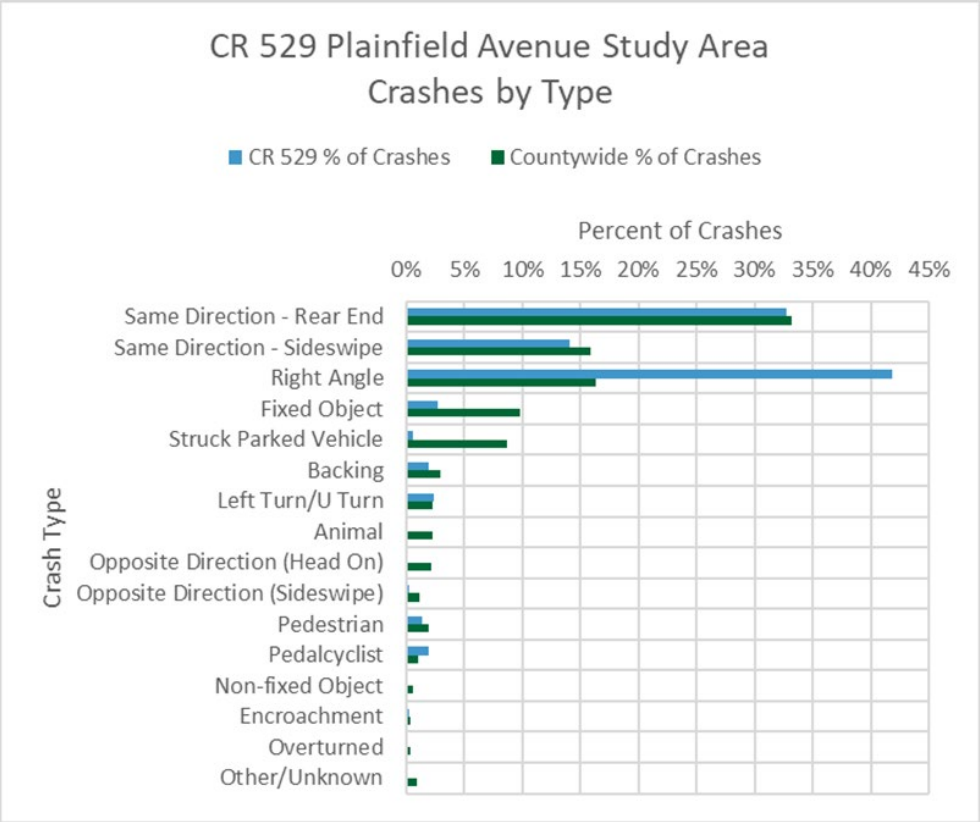


Figure 6. Plainfield Avenue (CR 529) crashes by type.

Right-angle crashes are significantly overrepresented in the study area, with 41.9 percent of the study area crashes compared to 16.4 percent of countywide crashes. See **Table 2** for the top overrepresented crash types. Additionally, Pedalcyclist crashes in the study area are almost double the countywide baseline.

Table 2. Plainfield Avenue (CR 529) top overrepresented and reported crash types.

Crash Type	Overrepresented Crash Rank	Observed Crash Rank	Percent of Crashes on CR 529	Percent of Crashes Countywide	Percent Overrepresentation
Right Angle	Highest	Highest	41.9%	16.4%	25.5%
Pedalcyclist	Second highest	Not Ranked	1.9%	1.0%	0.9%
Left Turn/U Turn	Third highest	Not Ranked	2.4%	2.3%	0.1%
Same Direction – Rear End	Not Ranked	Second highest	32.7%	33.1%	-0.4%
Same Direction – Sideswipe	Not Ranked	Third highest	14.1%	15.8%	-1.8%

3.2 Crash Severity

The Plainfield Avenue corridor had a significantly higher percentage of crashes (20.5 percent) resulting in a possible injury when compared to countywide crash percentages (13.3 percent). See **Table 3** for a breakdown of crashes by severity.

Table 3. Plainfield Avenue (CR 529) crashes by severity.

Crash Severity	Number of Crashes	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
No Apparent Injury	256	69.2%	75.6%	-6.4%
Possible Injury	76	20.5%	13.3%	7.2%
Suspected Minor Injury	34	9.2%	9.6%	-0.4%
Suspected Serious Injury	4	1.1%	1.2%	-0.1%
Fatal Injury	0	0.0%	0.3%	-0.3%

3.3 Temporal Trends

The following graphs show the crash breakdown by month, day of the week, and time of day.

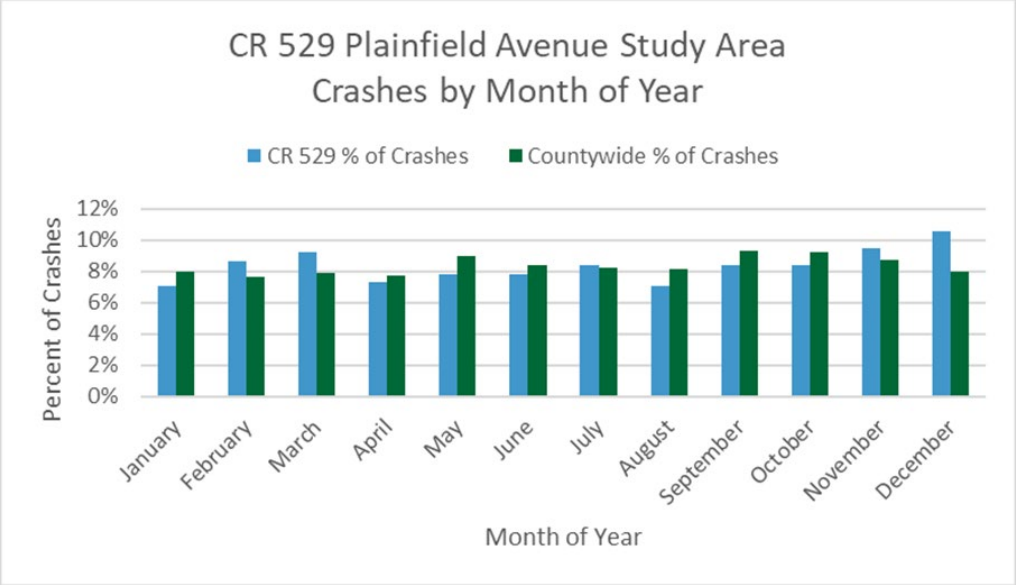


Figure 7. Plainfield Avenue (CR 529) crashes by month of the year.

Figure 7 shows that compared to Middlesex County, the Plainfield Avenue corridor had a greater percentage of crashes that occurred in February through March, July, and November through December.

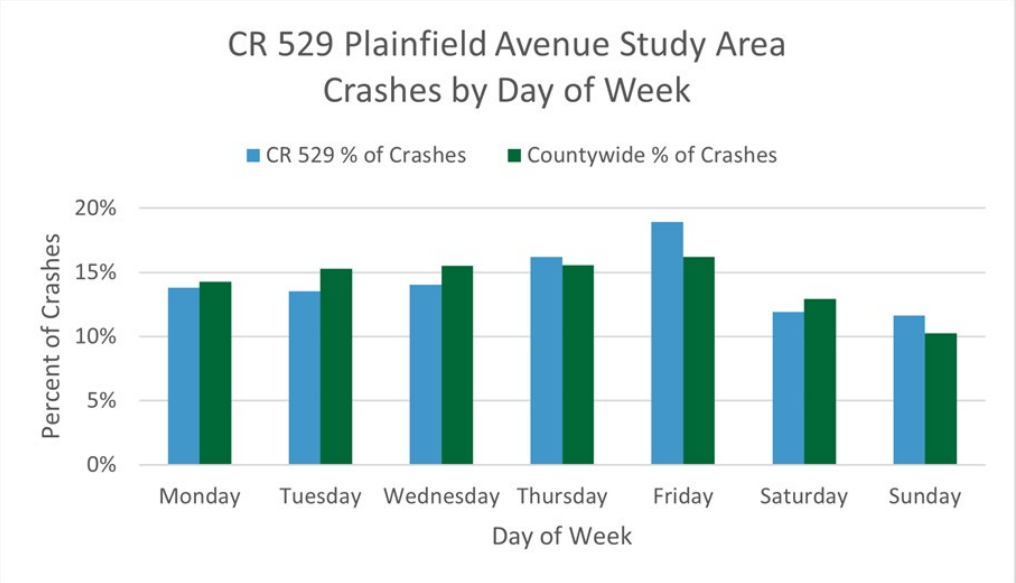


Figure 8. Plainfield Avenue (CR 529) crashes by day of the week.

Figure 8 shows a higher percentage of crashes occurred on the study corridor on Thursdays, Fridays, and Sundays compared to countywide crashes.

Figure 9, below, depicts a comparison between the study area and countywide crash percentages by time of day.

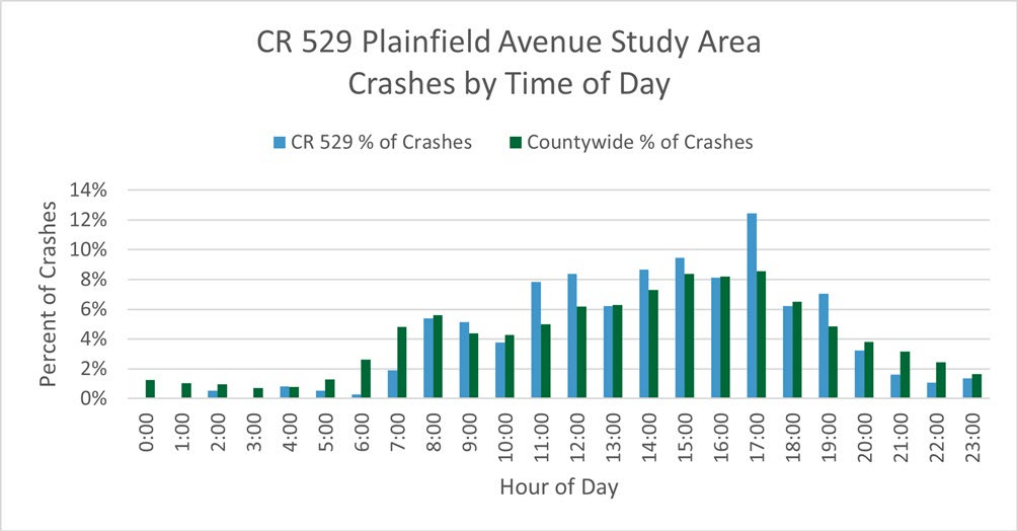


Figure 9. Plainfield Avenue (CR 529) crashes by time of day.

Crashes along the corridor are significantly higher than the average in Middlesex County from 5 to 6 pm, 7 to 8 pm, and higher during midday and afternoon (11 am to 4 pm).

3.4 Roadway Surface & Lighting Conditions

The Plainfield Avenue crashes by road surface condition percentages were comparable to the countywide distribution of crashes, with a slightly higher number of crashes that occurred during dry road surface conditions (84.9 percent versus 82.3 percent countywide). See **Table 4** for the percentage of crashes by road surface condition.

Table 4. Plainfield Avenue (CR 529) crashes by roadway surface conditions.

Road Surface Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Dry	84.9%	82.3%	1.6%
Wet	14.3%	15.1%	-0.8%
Icy/Snowy/Slush	0.5%	1.9%	-1.4%
Other/Unknown	0.3%	0.7%	-0.4%

The percentage of crashes by light conditions is listed in **Table 5**.

Table 5. Plainfield Avenue (CR 529) crashes by light condition.

Light Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Daylight	75.9%	69.5%	6.4%
Dawn or Dusk	1.9%	4.2%	-2.3%
Dark - Lighted	21.6%	23.2%	-1.6%
Dark - Not Lighted	0.5%	2.0%	-1.5%
Unknown	0.0%	1.1%	-1.1%

Crashes on Plainfield Avenue occurred more frequently during daylight conditions (75.9 percent) compared to countywide (69.5 percent).

3.5 Near Miss Analysis

The near-miss analysis was conducted for the Plainfield and Greenwood Avenue intersection. Data collection included 48 hours of video recording at the intersection, which was processed using artificial intelligence to flag near misses.

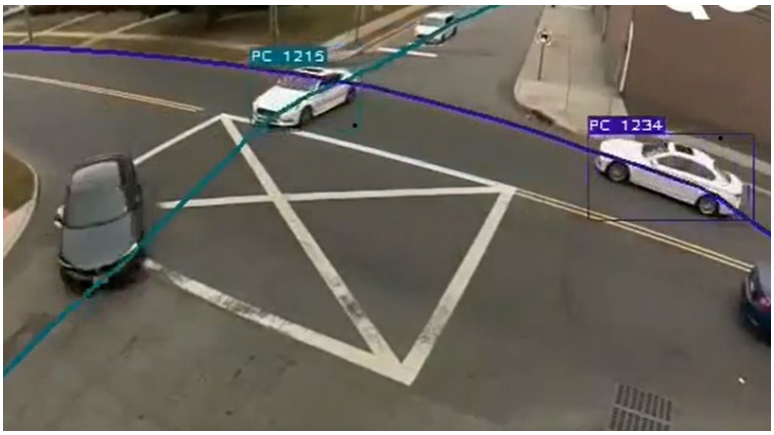


Figure 10. Plainfield Avenue (CR 529) near-miss example.

A post-encroachment time (PET) was determined for each near miss, which measures the time between one road user leaving a given point on a roadway and a second road user arriving at the same point. A PET of zero seconds means that a crash occurred, while a long PET suggests that two road users passed through the same point of conflict but with a significant amount of time lapsed between both vehicles. Conflicts by mode and PET during the 48-hour observation period are listed in **Table 6**, with a total of 126 conflicts in a two-day period.

Table 6. Plainfield Avenue (CR 529) intersection near misses by mode and PET.

Conflict Mode	Post-Encroachment Time			Total Conflicts	Total Percentage
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	2	2	82	86	68.0%
Vehicle-Bicycle	2	1	9	12	10.0%
Vehicle-Pedestrian	2	4	22	28	22.0%
Total	***6***	***7***	***113***	***126***	***100%***

Most near-misses were vehicle-to-vehicle conflicts, with 68 percent of near-misses. More significantly, 67 percent of near-misses with a PET of less than 1.5 seconds involved a vulnerable road user (VRU).

The data was also analyzed to determine which movements most often resulted in near-misses at the intersection. Conflicts with A PET of 2.5 seconds or more were not included in the analysis. The movement types with the most near-misses involved a westbound through vehicle crossing in front of a southbound through vehicle, a westbound through vehicle crossing in front of a northbound through vehicle, and a northbound through vehicle crossing in front of a westbound pedestrian on the north leg of the intersection. Currently, there are no marked crosswalks at this intersection, with the Greenwood Avenue approaches signed and marked as right-turn only.

3.6 Crash and Near Miss Data Finding Summary

Based on the crash data analysis, the crash types with the greatest PSI include right-angle crashes. Right-angle crashes occur when the roadway suffers from potential systemic issues with intersection design, signal timing, or driver behavior.

The analysis also noted that daylight crashes were overrepresented suggesting that factors beyond visibility, for example, driver distraction or congestion, contribute to crashes during daytime hours.

Crashes during midday and afternoon hours, and occurring from 5 to 6 pm, 7 to 8 pm, and higher during midday and afternoon (11 am to 4 pm). These overrepresented time periods align with the evening rush hour, when congestion and queueing conditions are experienced on Plainfield Avenue as the major land uses are residential and business.

The near miss conflict data analysis at the intersection of CR 529 Plainfield Avenue and Greenwood Avenue identified 13 movement combinations that conflicted with a post-encroachment time of less than two seconds, with the most conflicts, six, occurring between westbound through and southbound through vehicles. During the crash data study period there were six reported crashes between these movements.

4 RSA LOGISTICS

4.1 Audit Schedule

Participants were given a pre-audit briefing at the local officials' meetings to prepare for the in-person field visit component of the RSA. Participants were briefed on the audit itinerary, walking route, observations and takeaways from the project team's field visits, and general safety guidelines. The Plainfield Avenue local officials meeting and pre-audit briefing took place on October 16th, 2024. The local officials' meeting presentation is provided in **Appendix D**.

The RSA team convened on Thursday, October 24th, 2024 at 8:00 a.m. for the Plainfield Avenue field audit. Participants met at the parking lot of the Edison Public Library, just north of the corridor. Following a summary of the orientation given during the pre-audit briefings, participants were given a safety vest and a corridor prompt list. The corridor prompt list consisted of several "yes/no" questions intended to prompt consideration of various topics, including sidewalk and roadway conditions, conflict points between drivers and pedestrians, lighting, driveways, intersection geometry, transit access, and overall perception of safety along the corridor. Audit materials are included in **Appendix E**.

An in-person debrief was held immediately after the audit to discuss findings and observations. Identified issues and improvements focused on operational and design aspects of the corridor suggested by audit participants in the field and/or through their completed prompt lists. Identified issues and improvements were categorized as either corridor-wide or location-specific, and are presented in Section 5 of this report. Corridor-wide issues and treatments were observed at multiple locations throughout the study corridor, while site-specific issues and treatments focused on specific mid-block locations or intersections.

4.2 Audit Participants

The RSA participants consisted of Middlesex County staff, the consultant project team, local officials and municipal staff, staff representing the NJTPA and Keep Middlesex Moving (KMM), and local AARP volunteers. Participants in attendance at each audit event, including the local officials meeting and the in-person audit, are listed in **Appendix F**.

5 IDENTIFIED ISSUES & OBSERVATIONS

The following is a summary of the identified roadway deficiencies and observations made by the audit team.

5.1 Corridor-wide

The audit team observed and discussed the following items at multiple locations.

Description	Photo Example
Unmarked Crosswalks with ADA Ramps Plainfield Avenue between Prospect Avenue and Ovington Avenue is characterized by two travel lanes and single-family homes along the road, with many active driveways. There are few formal (marked) crossing opportunities across Plainfield Avenue outside the major intersections at Route 1 and Route 27. At the northerly crosswalk at Seymour Avenue, there is a Rectangular Rapid Flashing Beacon (RRFB). Otherwise, there are several locations throughout Plainfield Avenue with curb cuts and ramps without any marked crosswalks. Crosswalks are also missing on Greenwood Avenue, a high-crash location on the corridor. Additionally, the presence of ADA ramps at unmarked crosswalks implies to the pedestrian a level of safety to cross at a location with no indications to vehicles of a pedestrian crossing.	

Crosswalk and Striping Condition Crosswalk paint is fading at many of the corridor's key intersections, limiting driver awareness at night and during inclement weather. Heavily traveled intersections like Plainfield Avenue and Routes 1 and 27 require frequent crosswalk maintenance due to the daily volume of vehicles on the roadway. The state route intersections are striped with parallel lines and would benefit from high-visibility crosswalks as these are the most challenging intersections for pedestrians.	
Substandard Sidewalks Sidewalk conditions vary throughout the corridor. Several locations are deficient and heavily worn with uneven terrain and significant cracking and deterioration due to a lack of upkeep, posing tripping hazards and non-compliant with ADA standards. Sidewalks are also narrow, about 4 feet wide, with no passing areas, as per ADA.	
Drainage In several locations between Jefferson Boulevard and Route 27, curb ramps were completely covered in debris, which can be left behind by ponding water and contributes to the deterioration of the Detectable Warning Surface (DWS) over time. Ponding was also observed on the northbound side of Plainfield Avenue by the Wick Shopping Plaza.	

Driveways

Plainfield Avenue has several active residential and commercial driveways. Reducing vehicle speeds may help decrease the severity of turning conflicts into residential driveways. Commercial driveways, especially at the approaches to Route 27, impede mobility. Several businesses have multiple and uncontrolled driveways, with some driveways spanning the entire frontage of the business, creating significant impact and hazards for pedestrians. There is no sidewalk treatment across driveways, resulting in vehicles driving on the sidewalk space to avoid the queuing at the intersection.

Because several parking lots have no formal driveway entry points, it is difficult for pedestrians to anticipate driver actions. Additionally, the placement of large driveways adjacent to the intersection creates additional conflicts and decision points for drivers that can increase the potential for crash occurrence.



Pedestrian Signal Heads & Push Buttons

Pedestrian push buttons appeared not to be functioning in some locations on Plainfield Avenue or were confusing to operate. The “Walk” signal had low visibility during the daytime.

Non-compliant and non-functioning pedestrian signal heads and push buttons create a confusing environment for pedestrians and may lead to pedestrians crossing unsafely.



Substandard & Noncompliant Curb Ramps

Curb ramp conditions varied throughout the corridor. While newly installed at some locations, they were in poor conditions in others, lacking detectable warning surfaces, and proper alignment or landing areas, and in various states of disrepair, often due to large vehicle wear and tear.

Auditors observed that some residences adjacent to midblock curb ramps use them to place their garbage bins on trash collection days.

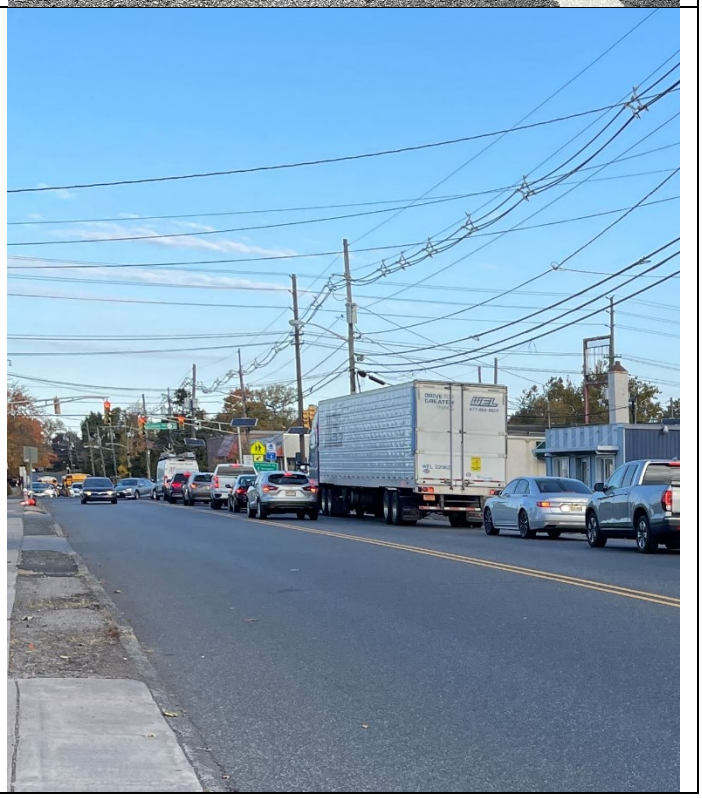


Wide Lanes

The study corridor has two travel lanes except for major intersection approaches and between Route 1 and Jefferson Boulevard, where the roadway has four travel lanes. There is no on-street parking permitted within the study corridor. In some instances, travel lanes are unmarked and almost 20 feet wide, encouraging speeding and unsafe driving maneuvers. Audit participants observed that wide lanes create confusion among drivers who sometimes treat a single lane as two lanes.

Lane Striping and Edge Lines

The corridor also lacks any edge lines or shoulder striping even when lane widths exceed 12 feet or more. This is a missed opportunity to achieve traffic calming and safety benefits.



Signage and Sign Clutter

Signs were inconsistently installed and varied in height, at times blocking the pedestrian space, visibility of pedestrians in the crosswalk, or blocking the visibility of downstream roadway signs. Additional the large number of signs with varying messages at the same locations create sign clutter in which the driver is unable to process the meaning of all of the information being presented at the same location.



5.2 Location-specific

The following items were location-specific and were discussed by the audit team at specific intersections or mid-block locations.

Description	Photo Example
Location: Pacific Street • There was congestion and queueing outside of the peak hours on northbound Plainfield Avenue at the Route 1 intersection. Drivers who want to make a U-turn for Route 1, exit at Craig Street and loop around using Larson Avenue and Pacific Street, impacting local residential streets. • There is heavy deterioration along the intersection corners and curbs indicating that the radius is small for large vehicles. Drivers are also driving over the curb to avoid queueing at the intersection and making a right on Pacific Street.	
Location: Route 1 • Although the audit took place on a clear day, participants commented that the Route 1 intersection is prone to flooding during weather events. • Route 1 has very long crossing distances for pedestrians.	

Location: Jefferson Boulevard • The Jefferson Boulevard intersection has 8-inch signals with incandescent bulbs and no retroreflective backplates, which results in poor visibility, especially depending on the time of day. • Pedestrian signal heads lack countdown signals.	
Location: Route 27 • The curbing and curb ramps at all corners of the Route 27 intersection are in disrepair with significant cracking and deterioration due to vehicle impacts. • There are no ADA-compliant curb ramps or detectable warning surfaces. • At the northeast corner, sight lines for drivers traveling southbound on Route 27 are obstructed by the utility pole, signal control box, and signage.	

Location: Greenwood Avenue

- The Greenwood Avenue intersection has the highest number of crashes in the corridor. Movements are restricted to right-in and right-out only at both approaches. The turn restriction was installed in response to numerous injury crashes at this location. However, participants observed that this restriction is frequently ignored, with vehicles driving straight across Greenwood or turning left onto Plainfield Avenue. Queuing for the Route 27 intersection reduces visibility for vehicles making illegal turns and often results in vehicles blocking the intersection in one direction for a better view of vehicles in the opposite direction.
- Audit participants noted that a portion of the traffic on Greenwood Avenue appears to be due to vehicles using the local roads to avoid traffic at the Route 27 intersection.
- The stop bars and lane arrow markings are faded.



6 FINDINGS & RECOMMENDATIONS

Recommendations were formulated based on existing conditions data findings and the identified issues and observations discussed and recorded during the safety audit and the post-audit debrief. Recommendations are organized into two groups: corridor-wide, and site-specific. Corridor-wide recommendations are prescribed for issues identified along multiple locations throughout the corridor, while site-specific recommendations are more targeted, focusing on specific intersections or segments.

6.1 Implementation Matrix (Recommendations)

The Implementation Matrix lists the findings and recommendations made by the RSA Team and County staff. Recommendations have a corresponding order of magnitude cost, timeframe, and jurisdiction to assist with project prioritization and implementation. The recommendations in bold font are an FHWA Proven Safety Countermeasure (PSC) that includes a collection of 28 proven strategies to reduce serious injury and fatal crashes.[2] Ultimately, these recommendations should be evaluated and designed for the roadway context by the roadway owners and/or a professional engineer according to applicable codes, standards, and best practices.

Table 7. Implementation Matrix legend

Symbol	Meaning	Definition
$	Low Cost	Maintenance and simple road repairs.
$$	Medium Cost	May require engineering or design work.
$$$	High Cost	Longer-term projects that might require full engineering and ROW acquisition.
🕐	Short Term	Could be accomplished within one year.
🕐🕐	Medium Term	Could be accomplished within one to three years and may require some engineering.
🕐🕐🕐	Long Term	Could be accomplished within 3 years or more and may require full engineering.

[2] https://highways.dot.gov/safety/proven-safety-countermeasures

Table 8. Plainfield Avenue recommendations.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Plainfield Ave - Corridor Wide				
1	**Conduct a sidewalk assessment to identify specific locations where the sidewalks need repair, replacement, or construction.[3]**	**$$**	🕐🕐	Municipality
2	Conduct a curb ramp assessment to identify specific locations in need of upgrades for ADA compliance.	**$$**	🕐🕐	County, Municipality
3	**Revise the County's standard driveway apron design for development applications, including sidewalk treatment/materials carried through the driveway and ADA-compliant sidewalk treatments, to apply to all new development and redevelopment projects on County roads including single-family and multi-family residential developments.**	**$**	🕐	County
4	**Conduct an access management analysis for the corridor.**	**$$**	🕐🕐	County, Municipality, Property Owner
5	Provide sidewalk buffer between curb and sidewalk.	**$$$**	🕐🕐🕐	Municipality, Property Owner
6	**Stripe edge lines.**	**$**	🕐	County
7	**Consider installing bike lanes.**	**$**	🕐🕐	County, Municipality
8	Perform regular maintenance to clear debris from sidewalks and curb ramps.	**$**	🕐	Municipality, Property Owner
Between Irving Street and Florence Street				
9	**Stripe high-visibility crosswalks across Irving Street and Florence Street.**	**$**	🕐	Municipality
10	**Stripe stop bars at the Irving Street and Florence Street approaches.**	**$**	🕐	Municipality
11	**Stripe high-visibility crosswalk across Plainfield Avenue, north of the Irving Street intersection, to connect the existing curb ramps.**	**$**	🕐	County

[3] The County neither constructs nor maintains sidewalk along a County road. Maintenance of sidewalks is the responsibility of the adjacent property owner, and municipalities may enforce maintenance by local ordinance. Municipalities can also construct sidewalk and have the legal ability to assess property owners for the cost.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
12	**Consider installing an RRFB across Plainfield Avenue at new Irving Street crosswalk to facilitate safe pedestrian crossings.**	**$$**	🕐🕐	County, Municipality
Pacific Street				
13	Relocate the crosswalk across Plainfield Avenue to south of Pacific Street.	**$**	🕐	County
14	**Stripe high-visibility crosswalks across Plainfield Avenue and Pacific Street.**	**$**	🕐	County, Municipality
15	Evaluate truck turning templates and reconstruct curbs at the SE and NE corners of the intersection.	**$**	🕐	County
16	**Continue sidewalk material (here, concrete) through driveways and construct ADA-compliant curb ramps.**	**$**	🕐🕐	Municipality, Property Owner
17	**Evaluate the existing driveway entrance at the Walgreens property on Plainfield Avenue. The entrance may have to be widened, with existing radii increased, to accommodate delivery trucks, or install proper signage instructing trucks to use the Craig Street entrance.**	**$$**	🕐🕐	Property Owner
Craig Street and Route 1				
18	**Stripe high-visibility crosswalk across Craig Street.**	**$**	🕐	State, Municipality
19	**Stripe edge lines on Craig Street to narrow and define the receiving lane from Route 1.**	**$**	🕐	State, Municipality
Route 1				
20	**Stripe high-visibility crosswalks across all legs of the intersection.**	**$**	🕐🕐	State
21	**Work with the NJDOT Bureau of Traffic Engineering to consider the feasibility of implementing Leading Pedestrian Intervals to help pedestrians establish their presence at the intersection. Also, consider increasing pedestrian crossing time, when activated, to allow a complete pedestrian crossing of Route 1 and Craig Street in one cycle. The NJDOT Bureau of Traffic Engineering can investigate these locations and determine if changes are warranted and feasible.**	**$$**	🕐🕐🕐	State

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
22	Work with NJDOT to create a problem statement to evaluate the feasibility of constructing a new Route 1 southbound off-ramp, either near-side or far-side, along with installing a pedestrian refuge island. This would require property acquisition and intersection signalization at Pacific Street.	**$$$**	🕐🕐🕐	State
Between Route 1 and Fulton Street				
23	**Construct ADA-compliant sidewalks through driveways on properties on the southbound side of Plainfield Avenue.**	**$**	🕐🕐	Municipality, Property Owner
24	Coordinate with utility company to relocate utility pole obstructing the pedestrian ROW on the southbound side of Plainfield Avenue.	**$**	🕐🕐	County, Municipality
Fulton Street				
25	**Restripe the stop bar at the Fulton Street approach.**	**$**	🕐	Municipality
26	**Stripe a high-visibility crosswalk at the Fulton Street approach.**	**$**	🕐	Municipality
Between Fulton Street and Jefferson Boulevard				
27	**Construct ADA-compliant sidewalks through driveway aprons on properties on the southbound side of Plainfield Avenue.**	**$**	🕐🕐	Municipality, Property Owner
Jefferson Boulevard				
28	Improve drainage issues at the intersection.	**$$**	🕐🕐	County
29	**Replace signal heads with new 12" LED lenses and retroreflective backplates.**	**$**	🕐🕐	County
30	Upgrade pedestrian signal heads and pushbuttons.	**$**	🕐🕐	County
31	Consider moving signal boxes on NW corner of intersection due to sight distances issues, compounded by the horizontal curve.	**$$**	🕐🕐	County
Entrance to Wick Shopping Plaza				
32	Improve drainage issues on northbound side of Plainfield Avenue.	**$$**	🕐🕐	County

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Between Wick Shopping Plaza and Prospect Avenue				
33	Coordinate with utility company to relocate the utility pole obstructing the pedestrian ROW on the northbound side of Plainfield Avenue, just north of the Wick Shipping Plaza exit.	**$**	🕐🕐	Municipality, County
34	**Construct ADA-compliant sidewalks through driveways on properties on the northbound side of Plainfield Avenue.**	**$**	🕐🕐	Municipality, Property Owner
Between Prospect Ave and Pelham Avenue				
35	**Stripe high-visibility crosswalks across Plainfield Avenue connecting the existing curb ramps. Install pedestrian crossing signs (W11-2).**	**$**	🕐	County
36	**Consider one RRFB installation on Plainfield Avenue for an additional controlled crossing opportunity.**	**$$**	🕐🕐	County, Municipality
37	**Stripe stop bars, double yellow lines, and high-visibility crosswalks across Prospect Avenue, Putnam Avenue, and Pelham Avenue.**	**$**	🕐	Municipality
Pannonia Ave				
38	**Stripe stop bar, double yellow line, and high-visibility crosswalk across Pannonia Avenue.**	**$**	🕐	Municipality
Seymour Avenue				
39	Stripe a double yellow line at the Seymour Avenue (south leg) approach.	**$**	🕐	Municipality
40	Repair the ADA ramp and connection to the sidewalk on the west side of the Plainfield Avenue crosswalk north of Seymour Avenue.	**$**	🕐	County
41	**Stripe stop bar, double yellow line, and high-visibility crosswalk across Seymour Avenue (north leg).**	**$**	🕐	Municipality
Ovington Avenue				
42	**Stripe stop bars, double yellow lines, and high-visibility crosswalks across both Ovington Avenue approaches.**	**$**	🕐	Municipality

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
43	**Extend the sidewalk on the NW corner of the intersection.**	**$**	🕐🕐	Municipality, Property Owner
44	Stripe "Do Not Block" intersection markings to accompany the existing signs.	**$**	🕐	County
45	**Install a high-visibility crosswalk across Plainfield Avenue, south of Ovington Avenue, with ADA compliant curb ramps, RRFB, and signage.**	**$$**	🕐🕐	County
Between Ovington Avenue and Route 27				
46	**Formalize driveway entrances by reducing curb cut widths and constructing curbs to prevent vehicles from driving and parking on/near the sidewalk.**	**$**	🕐🕐	Municipality, Property Owner
47	Restrict parking on the sidewalk area.	**$**	🕐	Municipality, Property Owner
48	**Investigate the feasibility of restricting driveway access to right-in, right-out movements only, in new or revised site plan applications for commercial properties located between Ovington Avenue and Route 27.**	**$**	🕐	County, Municipality, Property Owner
49	**Continue sidewalk material (here, concrete) through driveways and construct ADA-compliant curb ramps.**	**$**	🕐🕐	Municipality, Property Owner
Route 27				
50	Prepare an NJDOT Problem Statement to evaluate potential changes to the Route 27 and Plainfield Avenue intersection to address existing capacity issues.	**$$$**	🕐🕐🕐	County, State
51	Reconstruct all corner curbs with fully ADA-compliant curb ramps. Consider mountable curbs to accommodate truck turning movements.	**$$$**	🕐🕐🕐	State
52	Consider moving the traffic signal box and utility pole to improve sight distances on the Route 27 southbound approach. Any changes per this recommendation require NJDOT approval.	**$$$**	🕐🕐🕐	State

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
53	Consider moving the signs on the NE corner of the intersection to improve sight distances on the Route 27 southbound approach.	**$**	🕐	State
54	Installing "lane ends" signs (W4-2) to convey lane merges on northbound and southbound Plainfield Avenue past the Route 27 intersection.	**$**	🕐	County
55	**Stripe high-visibility crosswalks across all legs of the intersection.**	**$**	🕐🕐	State
Greenwood Ave				
56	**Stripe stop bars, double yellow lines, high-visibility crosswalks, and right turn arrow pavement markings across both approaches of Greenwood Avenue.**	**$**	🕐	Municipality
57	Consider centerline hardening to physically restrict all left turns at the intersection.	**$$**	🕐🕐	County
58	**Alternatively, or in conjunction with centerline hardening, consider revising Greenwood Avenue to a one-way roadway away from Plainfield Avenue, southbound between Plainfield Avenue and Division Street, and northbound between Plainfield Avenue and Sheppard Place.**	**$$**	🕐🕐	Municipality

6.2 Potential Funding Sources

Some safety enhancement concepts may be able to be implemented using signs and paint. These tend to be low-cost and are assumed to be completed with County staff and maintenance budgets. For larger projects, external funding may be required. There are several state and federal programs available to fund road safety improvements. This section provides a brief overview of several funding sources, including applicant requirements and the types of projects typically funded. Funding programs are subject to change. Additional information can be found by clicking on the link below each program.

6.2.1 Local Safety Program

The Local Safety Program (LSP) is a federally funded program supporting the construction of cost-effective and high-impact safety improvements on county and local roads. This program focuses on implementing FHWA Proven Safety Countermeasures (PSC), which are included as part of the safety recommendations in this report. Eligible projects include new traffic signals, road diets, roundabouts, curb extensions, pedestrian signals, and bike lanes. NJTPA subregions can receive application assistance through the Consultant Assistance Program a year in advance of the LSP solicitation. Consultants can help with required application elements like traffic data collection, crash diagrams, environmental impacts, alternatives analysis, and conceptual layouts.

The LSP application considers RSAs in the “Past Studies” portion of Section 3, awarding one point in the project scoring form for corridors that have undergone an RSA. The RSA process also produces data required for the application, including crash diagrams and recommended PSCs.

https://www.njtpa.org/LSP.aspx

6.2.2 Safe Streets and Roads for All

The Safe Streets and Roads for All (SS4A) was established by the Bipartisan Infrastructure Law (BIL) with $5 billion in appropriated funds for over five years to support initiatives that prevent serious injury and fatal crashes. The program is currently anticipated to continue until FFY 2026. The program offers Planning and Demonstration Grants and Implementation Grants. Because the County has already adopted the Vision Zero Safety Action Plan, the Planning and Demonstration Grant can be used to fund supplemental planning or demonstration activities that support the Action Plan including action plan updates, follow-up data collection and safety analysis, progress reporting, feasibility studies, MUTCD engineering studies, and behavioral or operational activity pilot programs. The Implementation Grant funds projects and strategies identified in the Action Plan. Eligible Implementation Grant projects include low-cost safety treatments like striping and road diets, improving pedestrian networks with lighting and high-

visibility pavement markings, speed management, bike network development, and other infrastructural, behavioral, and operational activities.

The design recommendations in this memo, illustrated in the conceptual plan, can be used for an implementation grant application as they are consistent with the Middlesex County Vision Zero Action Plan action items. Other recommendations to conduct additional safety studies or inventory the current network can be funded through either a Planning and Demonstration Grant or an Implementation Grant.

https://www.transportation.gov/grants/SS4A

6.2.3 Transportation Alternatives Program

The Transportation Alternatives Set-Aside program offers federal funds for non-traditional surface transportation projects. Counties and municipalities are eligible to apply. Projects are recommended to have a requested funding amount greater than $1.5 million. Funds are provided on a reimbursement basis and projects must be authorized for construction within two years of the grant notification and have formal community support with letters or resolutions of support dated within one year of the application solicitation letter date.

The County would be eligible for funding the improvements recommended in this report under categories 1 and 5, summarized below:

- Design and construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation including new or reconstructed sidewalks and curb ramps, bike lane striping, bike parking and bus racks, and bike and pedestrian bridges and underpasses.
- Community improvement activities including lighting, historic sidewalk paving, benches, planting containers, decorative walls, and walkways.

https://njdotlocalaidrc.com/federally-funded-programs/transportation-alternatives

6.2.4 Safe Routes to School (SRTS)

The Safe Routes to School (SRTS) Program is federally funded by the FHWA and administered by the NJDOT in partnership with the NJTPA, for infrastructure projects enabling K-12 students to walk and bike safely to school, making bicycling and walking to school a more appealing and accessible transportation alternative, and facilitating projects that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Counties, municipalities, and school districts can apply to the program for projects within two miles of a K-12 school. Projects may include ADA-compliant sidewalks and curb ramps, crosswalk

installation, pedestrian pushbuttons and signal heads, bike paths, bike parking, striping, lighting, signals, school zone delineations, and other traffic calming improvements.

SRTS funds are provided on a reimbursement basis. It is recommended that projects have a requested funding amount between $300,000 and $1 million. Projects must be authorized for construction within two years of the grant notification and have community and school district support. The municipality where the project is located should also adopt a Complete Streets Policy to demonstrate a commitment to safety. An SRTS handbook can be found on the NJDOT's Local Aid Resource Center website.

https://njdotlocalaidrc.com/federally-funded-programs/safe-routes-to-school

6.2.5 Local Freight Impact Fund Grant

NJDOT's Local Freight Impact Fund (LFIF) Grant Program is designed to help counties and municipalities mitigate the impact of freight transportation on local roads. The five program categories are:

- **Bridge Preservation**, to improve ratings/conditions in support of large truck traffic
- **New Construction**, in support of large truck traffic
- **Pavement Preservation,** to improve pavement condition in support of large truck traffic
- **Truck Safety and Mobility**, to improve large truck access, routing, and mobility along the County roadway system
- **Pedestrian Safety** to improve pedestrian safety and access

To be eligible for this grant, the project must be within the applicant's jurisdictional limit (unless a joint application is filed), the project must provide access to a freight node, and there must be a minimum of 10 percent large truck volume within the corridor limits when compared to the total ADT.

While this grant is more restricted in scope, focusing on freight transportation, it may be worth exploring locations with heavy truck traffic as the program can fund several safety improvements recommended in this report, especially in locations with pedestrian and truck conflicts. Eligible improvements under the pedestrian safety category include through crosswalks, pedestrian-activated traffic signals, ADA improvements, traffic calming measures, crossing islands, curb extensions, improved lighting, improved signage, constructing or connecting pedestrian routes, sidewalk reconstruction or replacement, and improving hazard conditions for pedestrians.

https://njdotlocalaidrc.com/state-funded-programs/local-freight-impact-fund

6.3 Conceptual Plan

A conceptual “sketch” or “planning-level” plan showing the recommended physical design elements for Plainfield Avenue is included in **Appendix G**. Please note that the plan is intended to illustrate potential future conditions based on audit recommendations found in Section 6 – Findings & Recommendations and is not meant as engineering drawings.

7 CONCLUSION

The Plainfield Avenue Road Safety Audit Report identifies road safety issues along the corridor from Irving Street to Greenwood Avenue using crash data, roadway characteristics, traffic counts, and experiential data gathered from the RSA events to prescribe safety countermeasures to reduce serious injury and fatal crashes. The data collection process was augmented by stakeholder input and feedback, which highlighted safety issues that were not evident through the data alone.

Corridor recommendations were developed through a collaborative process involving coordination among the Project Team, the RSA Team, and the County Staff to address the issues identified through the safety audits and the crash data. General corridor recommendations were made for issues consistently observed throughout the corridor, like faded crosswalks and a lack of pedestrian signals, while site-specific recommendations were made for key mid-block locations and intersections and gaps in the sidewalk network. Recommendations have an associated order of magnitude cost, implementation timeframe, and responsible jurisdiction to assist the County with project prioritization and implementation. Conceptual plans, based on audit recommendations, were also created to help illustrate potential future corridor conditions.

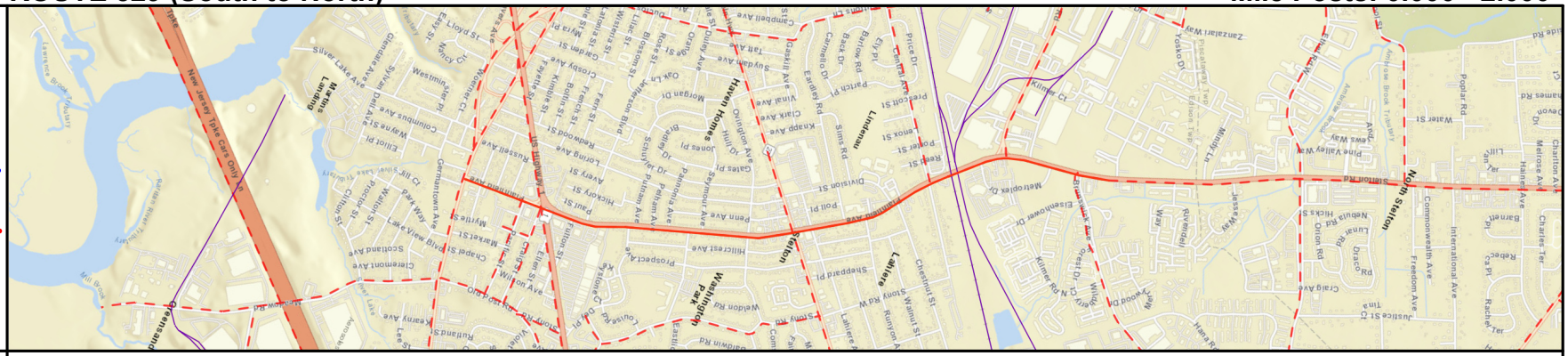
The safety improvements recommended in this report are consistent with the County's Vision Zero Safety Action Plan to reduce serious injuries and fatalities on County roadways. A variety of short-term and long-term interventions are recommended so that small steps can be taken incrementally to improve safety for all road users in Middlesex County.

Appendix A

Straight Line Diagram

ROUTE 529 (South to North)

Mile Posts: 0.000 - 2.000



Interstate Route 287 | US Route 22 | NJ Route 33 | County Road 689 | Interchange Number 2 | Grade Separated Interchange | Traffic Signal | Traffic Monitoring Sites WIM AVC VOL | Road Underpass | Road Overpass | Dyn Msg Sign DMS

Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	
Street Name	Plainfield Avenue
Jurisdiction	County
Functional Class	Urban Minor Arterial | Urban Principal Arterial
Federal Aid - NHS Sy	STP | NHS
Control Section	
Speed Limit	35 | 45
Number of Lanes	2 | 4 | 2 | 4
Med. Type	None
Med. Width	
Pavement	32 | 48 | 30 | 36 | 48
Shoulder	
Traffic Volume	5,483 (2019)
Traffic Sta. ID	91210
Structure No.	
Enlarged Views	

Begin Rt. 529 MP=0.00

SRI = 00000529__

Date last inventoried: November 2012

Page Created: June, 2020

Appendix B

Traffic Data

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 06/24/2019 to 06/26/2019

Site names:	091210,Plainfield Avenue-.11,00000529__	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	Sun, Jun 23, 2019			Mon, Jun 24, 2019			Tue, Jun 25, 2019			Wed, Jun 26, 2019			Thu, Jun 27, 2019			Fri, Jun 28, 2019			Sat, Jun 29, 2019		
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S
00:00							55	14	41	60	16	44									
01:00							24	10	14	41	18	23									
02:00							26	6	20	21	6	15									
03:00							11	4	7	18	2	16									
04:00							42	12	30	36	6	30									
05:00							99	25	74	108	29	79									
06:00							214	61	153	228	63	165									
07:00							367	87	280	364	82	282									
08:00							395	116	279	404	129	275									
09:00							346	94	252	381	127	254									
10:00							379	120	259	333	99	234									
11:00							357	106	251	415	125	290									
12:00				427	150	277	405	140	265												
13:00				398	119	279	393	118	275												
14:00				408	160	248	395	132	263												
15:00				397	129	268	371	115	256												
16:00				465	164	301	428	156	272												
17:00				441	157	284	455	169	286												
18:00				413	151	262	405	144	261												
19:00				347	115	232	386	140	246												
20:00				333	120	213	296	104	192												
21:00				218	73	145	275	101	174												
22:00				156	61	95	169	74	95												
23:00				103	39	64	101	35	66												
Total				4,106	1,438	2,668	6,394	2,083	4,311	2,409	702	1,707									
AM Peak Vol				0	0	0	395	120	280	404	129	282									
AM Peak Fct							1	1	1	1	1	1									
AM Peak Hr				0: 00	0: 00	0: 00	8: 00	10: 00	7: 00	8: 00	8: 00	7: 00									
PM Peak Vol				465	164	301	455	169	286	0	0	0									
PM Peak Fct				1	1	1	1	1	1												
PM Peak Hr				16: 00	16: 00	16: 00	17: 00	17: 00	17: 00	0: 00	0: 00	0: 00									
Seasonal Fct				.958	.958	.958	.958	.958	.958	.958	.958	.958									
Daily Fct				.913	.913	.913	.889	.889	.889	.891	.891	.891									
Axle Fct				.494	.494	.494	.494	.494	.494	.494	.494	.494									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

Notes:

06/24/2019 STAADTPctDiff Failed : The count AADT (5482.5) is 23.7% different from the prior count

Notes exist for this Count. See last page.

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 06/24/2019 to 06/26/2019

Site names:	091210,Plainfield Avenue-.11,00000529__	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

Notes:

06/25/2019	STAADTPctDiff Failed : The count AADT (5482.5) is 23.7% different from the prior count
06/26/2019	STAADTPctDiff Failed : The count AADT (5482.5) is 23.7% different from the prior count

Notes exist for this Count. See last page.

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 06/24/2019 to 06/26/2019

Site names:	091210,Plainfield Avenue-.11,00000529__	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 24, 2019 Road

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
12	3	333	54	2	13	6	0	2	13	1	0	0	0	0	427	21	16	37
	0.70%	77.99%	12.65%	0.47%	3.04%	1.41%	0.00%	0.47%	3.04%	0.23%	0.00%	0.00%	0.00%	0.00%	100.00	4.92%	3.75%	8.67%
13	2	315	50	2	16	6	0	0	6	1	0	0	0	0	398	24	7	31
	0.50%	79.15%	12.56%	0.50%	4.02%	1.51%	0.00%	0.00%	1.51%	0.25%	0.00%	0.00%	0.00%	0.00%	100.00	6.03%	1.76%	7.79%
14	1	322	55	0	15	4	0	0	10	1	0	0	0	0	408	19	11	30
	0.25%	78.92%	13.48%	0.00%	3.68%	0.98%	0.00%	0.00%	2.45%	0.25%	0.00%	0.00%	0.00%	0.00%	100.00	4.66%	2.70%	7.35%
15	1	317	46	4	15	4	0	0	5	0	0	0	0	5	397	23	5	28
	0.25%	79.85%	11.59%	1.01%	3.78%	1.01%	0.00%	0.00%	1.26%	0.00%	0.00%	0.00%	0.00%	1.26%	100.00	5.79%	1.26%	7.05%
16	2	409	37	0	7	2	0	1	6	0	0	0	0	1	465	9	7	16
	0.43%	87.96%	7.96%	0.00%	1.51%	0.43%	0.00%	0.22%	1.29%	0.00%	0.00%	0.00%	0.00%	0.22%	100.00	1.94%	1.51%	3.44%
17	1	397	27	2	9	4	0	0	1	0	0	0	0	0	441	15	1	16
	0.23%	90.02%	6.12%	0.45%	2.04%	0.91%	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.40%	0.23%	3.63%
18	2	379	28	0	2	1	0	0	1	0	0	0	0	0	413	3	1	4
	0.48%	91.77%	6.78%	0.00%	0.48%	0.24%	0.00%	0.00%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.73%	0.24%	0.97%
19	1	312	23	0	8	0	0	0	2	0	0	0	0	1	347	8	2	10
	0.29%	89.91%	6.63%	0.00%	2.31%	0.00%	0.00%	0.00%	0.58%	0.00%	0.00%	0.00%	0.00%	0.29%	100.00	2.31%	0.58%	2.88%
20	2	309	18	0	4	0	0	0	0	0	0	0	0	0	333	4	0	4
	0.60%	92.79%	5.41%	0.00%	1.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.20%	0.00%	1.20%
21	3	196	16	0	2	1	0	0	0	0	0	0	0	0	218	3	0	3
	1.38%	89.91%	7.34%	0.00%	0.92%	0.46%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.38%	0.00%	1.38%
22	1	147	4	0	2	2	0	0	0	0	0	0	0	0	156	4	0	4
	0.64%	94.23%	2.56%	0.00%	1.28%	1.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.56%	0.00%	2.56%
23	0	99	3	0	1	0	0	0	0	0	0	0	0	0	103	1	0	1
	0.00%	96.12%	2.91%	0.00%	0.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.97%	0.00%	0.97%
Total	19	3,535	361	10	94	30	0	3	44	3	0	0	0	7	4,106	134	50	184
	0.46%	86.09%	8.79%	0.24%	2.29%	0.73%	0.00%	0.07%	1.07%	0.07%	0.00%	0.00%	0.00%	0.17%	100.00	3.26%	1.22%	4.48%
Total Count	19	3,535	361	10	94	30	0	3	44	3	0	0	0	7	4,106	134	50	184
	0.46%	86.09%	8.79%	0.24%	2.29%	0.73%	0.00%	0.07%	1.07%	0.07%	0.00%	0.00%	0.00%	0.17%	100.00	3.26%	1.22%	4.48%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 25, 2019 Road

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	48	6	0	1	0	0	0	0	0	0	0	0	0	55	1	0	1
	0.00%	87.27%	10.91%	0.00%	1.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.82%	0.00%	1.82%
01	0	21	1	0	0	1	0	0	1	0	0	0	0	0	24	1	1	2
	0.00%	87.50%	4.17%	0.00%	0.00%	4.17%	0.00%	0.00%	4.17%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.17%	4.17%	8.33%
02	0	24	1	0	0	0	0	0	1	0	0	0	0	0	26	0	1	1
	0.00%	92.31%	3.85%	0.00%	0.00%	0.00%	0.00%	0.00%	3.85%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	3.85%	3.85%
03	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0
	0.00%	90.91%	9.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
04	0	30	6	0	2	1	0	0	3	0	0	0	0	0	42	3	3	6
	0.00%	71.43%	14.29%	0.00%	4.76%	2.38%	0.00%	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	7.14%	7.14%	14.29%
05	0	67	23	1	6	1	0	0	1	0	0	0	0	0	99	8	1	9
	0.00%	67.68%	23.23%	1.01%	6.06%	1.01%	0.00%	0.00%	1.01%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	8.08%	1.01%	9.09%
06	0	162	33	2	6	6	0	0	5	0	0	0	0	0	214	14	5	19
	0.00%	75.70%	15.42%	0.93%	2.80%	2.80%	0.00%	0.00%	2.34%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.54%	2.34%	8.88%
07	2	289	50	3	9	10	0	0	2	2	0	0	0	0	367	22	4	26
	0.54%	78.75%	13.62%	0.82%	2.45%	2.72%	0.00%	0.00%	0.54%	0.54%	0.00%	0.00%	0.00%	0.00%	100.00	5.99%	1.09%	7.08%
08	1	329	44	2	12	3	1	0	2	0	0	0	0	1	395	18	2	20
	0.25%	83.29%	11.14%	0.51%	3.04%	0.76%	0.25%	0.00%	0.51%	0.00%	0.00%	0.00%	0.00%	0.25%	100.00	4.56%	0.51%	5.06%
09	1	269	38	2	18	6	0	0	8	2	0	0	0	2	346	26	10	36
	0.29%	77.75%	10.98%	0.58%	5.20%	1.73%	0.00%	0.00%	2.31%	0.58%	0.00%	0.00%	0.00%	0.58%	100.00	7.51%	2.89%	10.40%
10	1	286	47	3	19	7	1	3	11	0	0	0	0	1	379	30	14	44
	0.26%	75.46%	12.40%	0.79%	5.01%	1.85%	0.26%	0.79%	2.90%	0.00%	0.00%	0.00%	0.00%	0.26%	100.00	7.92%	3.69%	11.61%
11	0	289	33	1	13	8	0	3	8	2	0	0	0	0	357	22	13	35
	0.00%	80.95%	9.24%	0.28%	3.64%	2.24%	0.00%	0.84%	2.24%	0.56%	0.00%	0.00%	0.00%	0.00%	100.00	6.16%	3.64%	9.80%
12	1	313	42	6	18	11	0	1	12	1	0	0	0	0	405	35	14	49
	0.25%	77.28%	10.37%	1.48%	4.44%	2.72%	0.00%	0.25%	2.96%	0.25%	0.00%	0.00%	0.00%	0.00%	100.00	8.64%	3.46%	12.10%
13	3	308	38	1	17	11	0	3	10	0	0	0	0	2	393	29	13	42
	0.76%	78.37%	9.67%	0.25%	4.33%	2.80%	0.00%	0.76%	2.54%	0.00%	0.00%	0.00%	0.00%	0.51%	100.00	7.38%	3.31%	10.69%
14	7	309	48	5	15	7	0	0	4	0	0	0	0	0	395	27	4	31
	1.77%	78.23%	12.15%	1.27%	3.80%	1.77%	0.00%	0.00%	1.01%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.84%	1.01%	7.85%
15	0	283	61	1	20	1	0	3	2	0	0	0	0	0	371	22	5	27
	0.00%	76.28%	16.44%	0.27%	5.39%	0.27%	0.00%	0.81%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.93%	1.35%	7.28%
16	0	375	40	0	7	1	0	0	4	0	0	0	0	1	428	8	4	12
	0.00%	87.62%	9.35%	0.00%	1.64%	0.23%	0.00%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%	0.23%	100.00	1.87%	0.93%	2.80%
17	2	402	31	4	7	2	0	1	4	0	0	0	0	2	455	13	5	18
	0.44%	88.35%	6.81%	0.88%	1.54%	0.44%	0.00%	0.22%	0.88%	0.00%	0.00%	0.00%	0.00%	0.44%	100.00	2.86%	1.10%	3.96%
18	0	363	30	0	6	0	0	0	2	0	0	0	0	4	405	6	2	8
	0.00%	89.63%	7.41%	0.00%	1.48%	0.00%	0.00%	0.00%	0.49%	0.00%	0.00%	0.00%	0.00%	0.99%	100.00	1.48%	0.49%	1.98%
19	1	347	29	0	8	1	0	0	0	0	0	0	0	0	386	9	0	9
	0.26%	89.90%	7.51%	0.00%	2.07%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.33%	0.00%	2.33%
20	3	268	20	0	2	2	0	0	1	0	0	0	0	0	296	4	1	5
	1.01%	90.54%	6.76%	0.00%	0.68%	0.68%	0.00%	0.00%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.35%	0.34%	1.69%
21	1	252	18	0	2	0	0	0	2	0	0	0	0	0	275	2	2	4
	0.36%	91.64%	6.55%	0.00%	0.73%	0.00%	0.00%	0.00%	0.73%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.73%	0.73%	1.45%
22	1	160	7	0	1	0	0	0	0	0	0	0	0	0	169	1	0	1
	0.59%	94.67%	4.14%	0.00%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.59%	0.00%	0.59%
23	0	94	7	0	0	0	0	0	0	0	0	0	0	0	101	0	0	0
	0.00%	93.07%	6.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
Total	24	5,298	654	31	189	79	2	14	83	7	0	0	0	13	6,394	301	104	405
	0.38%	82.86%	10.23%	0.48%	2.96%	1.24%	0.03%	0.22%	1.30%	0.11%	0.00%	0.00%	0.00%	0.20%	100.00	4.71%	1.63%	6.33%
Total Count	24	5,298	654	31	189	79	2	14	83	7	0	0	0	13	6,394	301	104	405
	0.38%	82.86%	10.23%	0.48%	2.96%	1.24%	0.03%	0.22%	1.30%	0.11%	0.00%	0.00%	0.00%	0.20%	100.00	4.71%	1.63%	6.33%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 26, 2019 Road

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0 0.00%	53 88.33%	2 3.33%	0 0.00%	2 3.33%	1 1.67%	0 0.00%	0 0.00%	2 3.33%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	60 100.00	3 5.00%	2 3.33%	5 8.33%
01	0 0.00%	34 82.93%	7 17.07%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	41 100.00	0 0.00%	0 0.00%	0 0.00%
02	0 0.00%	17 80.95%	2 9.52%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	21 100.00	1 4.76%	1 4.76%	2 9.52%
03	1 5.56%	14 77.78%	0 0.00%	0 0.00%	2 11.11%	1 5.56%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	18 100.00	3 16.67%	0 0.00%	3 16.67%
04	0 0.00%	25 69.44%	7 19.44%	0 0.00%	1 2.78%	2 5.56%	0 0.00%	0 0.00%	1 2.78%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	36 100.00	3 8.33%	1 2.78%	4 11.11%
05	0 0.00%	78 72.22%	22 20.37%	0 0.00%	4 3.70%	1 0.93%	0 0.00%	0 0.00%	3 2.78%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	108 100.00	5 4.63%	3 2.78%	8 7.41%
06	1 0.44%	171 75.00%	39 17.11%	1 0.44%	8 3.51%	4 1.75%	0 0.00%	0 0.00%	4 1.75%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	228 100.00	13 5.70%	4 1.75%	17 7.46%
07	3 0.82%	281 77.20%	51 14.01%	1 0.27%	12 3.30%	9 2.47%	0 0.00%	1 0.27%	6 1.65%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	364 100.00	22 6.04%	7 1.92%	29 7.97%
08	2 0.50%	324 80.20%	45 11.14%	1 0.25%	15 3.71%	9 2.23%	0 0.00%	1 0.25%	5 1.24%	1 0.25%	0 0.00%	0 0.00%	0 0.00%	1 0.25%	404 100.00	25 6.19%	7 1.73%	32 7.92%
09	1 0.26%	304 79.79%	40 10.50%	6 1.57%	13 3.41%	6 1.57%	0 0.00%	3 0.79%	6 1.57%	1 0.26%	0 0.00%	0 0.00%	0 0.00%	1 0.26%	381 100.00	25 6.56%	10 2.62%	35 9.19%
10	2 0.60%	255 76.58%	33 9.91%	5 1.50%	19 5.71%	8 2.40%	0 0.00%	1 0.30%	7 2.10%	1 0.30%	0 0.00%	0 0.00%	0 0.00%	2 0.60%	333 100.00	32 9.61%	9 2.70%	41 12.31%
11	6 1.45%	320 77.11%	58 13.98%	1 0.24%	16 3.86%	8 1.93%	0 0.00%	1 0.24%	5 1.20%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	415 100.00	25 6.02%	6 1.45%	31 7.47%
Total	16 0.66%	1,876 77.87%	306 12.70%	15 0.62%	93 3.86%	49 2.03%	0 0.00%	7 0.29%	40 1.66%	3 0.12%	0 0.00%	0 0.00%	0 0.00%	4 0.17%	2,409 100.00	157 6.52%	50 2.08%	207 8.59%
Total Count	16 0.66%	1,876 77.87%	306 12.70%	15 0.62%	93 3.86%	49 2.03%	0 0.00%	7 0.29%	40 1.66%	3 0.12%	0 0.00%	0 0.00%	0 0.00%	4 0.17%	2,409 100.00	157 6.52%	50 2.08%	207 8.59%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 24, 2019 North

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
12	0	103	30	1	7	2	0	1	5	1	0	0	0	0	150	10	7	17
	0.00%	68.67%	20.00%	0.67%	4.67%	1.33%	0.00%	0.67%	3.33%	0.67%	0.00%	0.00%	0.00%	0.00%	100.00	6.67%	4.67%	11.33%
13	1	97	13	0	2	3	0	0	3	0	0	0	0	0	119	5	3	8
	0.84%	81.51%	10.92%	0.00%	1.68%	2.52%	0.00%	0.00%	2.52%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.20%	2.52%	6.72%
14	0	120	26	0	7	0	0	0	6	1	0	0	0	0	160	7	7	14
	0.00%	75.00%	16.25%	0.00%	4.38%	0.00%	0.00%	0.00%	3.75%	0.63%	0.00%	0.00%	0.00%	0.00%	100.00	4.38%	4.38%	8.75%
15	1	104	19	0	2	0	0	0	3	0	0	0	0	0	129	2	3	5
	0.78%	80.62%	14.73%	0.00%	1.55%	0.00%	0.00%	0.00%	2.33%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.55%	2.33%	3.88%
16	1	146	11	0	2	1	0	0	3	0	0	0	0	0	164	3	3	6
	0.61%	89.02%	6.71%	0.00%	1.22%	0.61%	0.00%	0.00%	1.83%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.83%	1.83%	3.66%
17	0	145	5	0	6	1	0	0	0	0	0	0	0	0	157	7	0	7
	0.00%	92.36%	3.18%	0.00%	3.82%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.46%	0.00%	4.46%
18	0	137	14	0	0	0	0	0	0	0	0	0	0	0	151	0	0	0
	0.00%	90.73%	9.27%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
19	0	103	8	0	3	0	0	0	1	0	0	0	0	0	115	3	1	4
	0.00%	89.57%	6.96%	0.00%	2.61%	0.00%	0.00%	0.00%	0.87%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.61%	0.87%	3.48%
20	2	107	9	0	2	0	0	0	0	0	0	0	0	0	120	2	0	2
	1.67%	89.17%	7.50%	0.00%	1.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.67%	0.00%	1.67%
21	0	65	7	0	0	1	0	0	0	0	0	0	0	0	73	1	0	1
	0.00%	89.04%	9.59%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.37%	0.00%	1.37%
22	1	59	1	0	0	0	0	0	0	0	0	0	0	0	61	0	0	0
	1.64%	96.72%	1.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
23	0	38	0	0	1	0	0	0	0	0	0	0	0	0	39	1	0	1
	0.00%	97.44%	0.00%	0.00%	2.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.56%	0.00%	2.56%
Total	6	1,224	143	1	32	8	0	1	21	2	0	0	0	0	1,438	41	24	65
	0.42%	85.12%	9.94%	0.07%	2.23%	0.56%	0.00%	0.07%	1.46%	0.14%	0.00%	0.00%	0.00%	0.00%	100.00	2.85%	1.67%	4.52%
Total Count	6	1,224	143	1	32	8	0	1	21	2	0	0	0	0	1,438	41	24	65
	0.42%	85.12%	9.94%	0.07%	2.23%	0.56%	0.00%	0.07%	1.46%	0.14%	0.00%	0.00%	0.00%	0.00%	100.00	2.85%	1.67%	4.52%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 25, 2019 North

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	11	3	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0
	0.00%	78.57%	21.43%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
01	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0
	0.00%	100.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
02	0	4	1	0	0	0	0	0	1	0	0	0	0	0	6	0	1	1
	0.00%	66.67%	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	16.67%	16.67%
03	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
	0.00%	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
04	0	8	2	0	1	1	0	0	0	0	0	0	0	0	12	2	0	2
	0.00%	66.67%	16.67%	0.00%	8.33%	8.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	16.67%	0.00%	16.67%
05	0	17	5	0	2	0	0	0	1	0	0	0	0	0	25	2	1	3
	0.00%	68.00%	20.00%	0.00%	8.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	8.00%	4.00%	12.00%
06	0	42	13	0	1	3	0	0	2	0	0	0	0	0	61	4	2	6
	0.00%	68.85%	21.31%	0.00%	1.64%	4.92%	0.00%	0.00%	3.28%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.56%	3.28%	9.84%
07	0	64	17	0	2	2	0	0	1	1	0	0	0	0	87	4	2	6
	0.00%	73.56%	19.54%	0.00%	2.30%	2.30%	0.00%	0.00%	1.15%	1.15%	0.00%	0.00%	0.00%	0.00%	100.00	4.60%	2.30%	6.90%
08	0	92	15	1	5	1	1	0	1	0	0	0	0	0	116	8	1	9
	0.00%	79.31%	12.93%	0.86%	4.31%	0.86%	0.86%	0.00%	0.86%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.90%	0.86%	7.76%
09	0	71	12	1	4	2	0	0	3	1	0	0	0	0	94	7	4	11
	0.00%	75.53%	12.77%	1.06%	4.26%	2.13%	0.00%	0.00%	3.19%	1.06%	0.00%	0.00%	0.00%	0.00%	100.00	7.45%	4.26%	11.70%
10	0	87	20	0	4	4	0	0	4	0	0	0	0	1	120	8	4	12
	0.00%	72.50%	16.67%	0.00%	3.33%	3.33%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.83%	100.00	6.67%	3.33%	10.00%
11	0	81	14	0	2	4	0	2	2	1	0	0	0	0	106	6	5	11
	0.00%	76.42%	13.21%	0.00%	1.89%	3.77%	0.00%	1.89%	1.89%	0.94%	0.00%	0.00%	0.00%	0.00%	100.00	5.66%	4.72%	10.38%
12	0	109	15	1	3	6	0	0	5	1	0	0	0	0	140	10	6	16
	0.00%	77.86%	10.71%	0.71%	2.14%	4.29%	0.00%	0.00%	3.57%	0.71%	0.00%	0.00%	0.00%	0.00%	100.00	7.14%	4.29%	11.43%
13	1	93	13	0	2	4	0	0	4	0	0	0	0	1	118	6	4	10
	0.85%	78.81%	11.02%	0.00%	1.69%	3.39%	0.00%	0.00%	3.39%	0.00%	0.00%	0.00%	0.00%	0.85%	100.00	5.08%	3.39%	8.47%
14	1	110	15	1	2	1	0	0	2	0	0	0	0	0	132	4	2	6
	0.76%	83.33%	11.36%	0.76%	1.52%	0.76%	0.00%	0.00%	1.52%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.03%	1.52%	4.55%
15	0	90	19	0	3	1	0	1	1	0	0	0	0	0	115	4	2	6
	0.00%	78.26%	16.52%	0.00%	2.61%	0.87%	0.00%	0.87%	0.87%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.48%	1.74%	5.22%
16	0	132	17	0	4	0	0	0	2	0	0	0	0	1	156	4	2	6
	0.00%	84.62%	10.90%	0.00%	2.56%	0.00%	0.00%	0.00%	1.28%	0.00%	0.00%	0.00%	0.00%	0.64%	100.00	2.56%	1.28%	3.85%
17	0	151	13	1	2	0	0	0	2	0	0	0	0	0	169	3	2	5
	0.00%	89.35%	7.69%	0.59%	1.18%	0.00%	0.00%	0.00%	1.18%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.78%	1.18%	2.96%
18	0	130	10	0	3	0	0	0	1	0	0	0	0	0	144	3	1	4
	0.00%	90.28%	6.94%	0.00%	2.08%	0.00%	0.00%	0.00%	0.69%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.08%	0.69%	2.78%
19	1	124	9	0	5	1	0	0	0	0	0	0	0	0	140	6	0	6
	0.71%	88.57%	6.43%	0.00%	3.57%	0.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.29%	0.00%	4.29%
20	2	93	7	0	1	1	0	0	0	0	0	0	0	0	104	2	0	2
	1.92%	89.42%	6.73%	0.00%	0.96%	0.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.92%	0.00%	1.92%
21	1	91	8	0	0	0	0	0	1	0	0	0	0	0	101	0	1	1
	0.99%	90.10%	7.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.99%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.99%	0.99%
22	0	73	1	0	0	0	0	0	0	0	0	0	0	0	74	0	0	0
	0.00%	98.65%	1.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
23	0	33	2	0	0	0	0	0	0	0	0	0	0	0	35	0	0	0
	0.00%	94.29%	5.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
Total	6	1,719	232	5	46	31	1	3	33	4	0	0	0	3	2,083	83	40	123
	0.29%	82.53%	11.14%	0.24%	2.21%	1.49%	0.05%	0.14%	1.58%	0.19%	0.00%	0.00%	0.00%	0.14%	100.00	3.98%	1.92%	5.90%
Total Count	6	1,719	232	5	46	31	1	3	33	4	0	0	0	3	2,083	83	40	123
	0.29%	82.53%	11.14%	0.24%	2.21%	1.49%	0.05%	0.14%	1.58%	0.19%	0.00%	0.00%	0.00%	0.14%	100.00	3.98%	1.92%	5.90%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 26, 2019 North

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0 0.00%	15 93.75%	0 0.00%	0 0.00%	1 6.25%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	16 100.00	1 6.25%	0 0.00%	1 6.25%
01	0 0.00%	15 83.33%	3 16.67%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	18 100.00	0 0.00%	0 0.00%	0 0.00%
02	0 0.00%	5 83.33%	1 16.67%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	6 100.00	0 0.00%	0 0.00%	0 0.00%
03	0 0.00%	2 100.00	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 100.00	0 0.00%	0 0.00%	0 0.00%
04	0 0.00%	3 50.00%	1 16.67%	0 0.00%	0 0.00%	1 16.67%	0 0.00%	0 0.00%	1 16.67%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	6 100.00	1 16.67%	1 16.67%	2 33.33%
05	0 0.00%	18 62.07%	8 27.59%	0 0.00%	3 10.34%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	29 100.00	3 10.34%	0 0.00%	3 10.34%
06	1 1.59%	43 68.25%	14 22.22%	1 1.59%	1 1.59%	2 3.17%	0 0.00%	0 0.00%	1 1.59%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	63 100.00	4 6.35%	1 1.59%	5 7.94%
07	1 1.22%	61 74.39%	11 13.41%	0 0.00%	3 3.66%	1 1.22%	0 0.00%	1 1.22%	4 4.88%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	82 100.00	4 4.88%	5 6.10%	9 10.98%
08	0 0.00%	105 81.40%	15 11.63%	0 0.00%	4 3.10%	2 1.55%	0 0.00%	0 0.00%	3 2.33%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	129 100.00	6 4.65%	3 2.33%	9 6.98%
09	0 0.00%	90 70.87%	18 14.17%	1 0.79%	6 4.72%	4 3.15%	0 0.00%	2 1.57%	5 3.94%	1 0.79%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	127 100.00	11 8.66%	8 6.30%	19 14.96%
10	0 0.00%	69 69.70%	15 15.15%	1 1.01%	10 10.10%	2 2.02%	0 0.00%	0 0.00%	1 1.01%	1 1.01%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	99 100.00	13 13.13%	2 2.02%	15 15.15%
11	0 0.00%	89 71.20%	20 16.00%	0 0.00%	7 5.60%	5 4.00%	0 0.00%	1 0.80%	3 2.40%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	125 100.00	12 9.60%	4 3.20%	16 12.80%
Total	2 0.28%	515 73.36%	106 15.10%	3 0.43%	35 4.99%	17 2.42%	0 0.00%	4 0.57%	18 2.56%	2 0.28%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	702 100.00	55 7.83%	24 3.42%	79 11.25%
Total Count	2 0.28%	515 73.36%	106 15.10%	3 0.43%	35 4.99%	17 2.42%	0 0.00%	4 0.57%	18 2.56%	2 0.28%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	702 100.00	55 7.83%	24 3.42%	79 11.25%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 24, 2019 South

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
12	3 1.08%	230 83.03%	24 8.66%	1 0.36%	6 2.17%	4 1.44%	0 0.00%	1 0.36%	8 2.89%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	277 100.00	11 3.97%	9 3.25%	20 7.22%
13	1 0.36%	218 78.14%	37 13.26%	2 0.72%	14 5.02%	3 1.08%	0 0.00%	0 0.00%	3 1.08%	1 0.36%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	279 100.00	19 6.81%	4 1.43%	23 8.24%
14	1 0.40%	202 81.45%	29 11.69%	0 0.00%	8 3.23%	4 1.61%	0 0.00%	0 0.00%	4 1.61%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	248 100.00	12 4.84%	4 1.61%	16 6.45%
15	0 0.00%	213 79.48%	27 10.07%	4 1.49%	13 4.85%	4 1.49%	0 0.00%	0 0.00%	2 0.75%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	5 1.87%	268 100.00	21 7.84%	2 0.75%	23 8.58%
16	1 0.33%	263 87.38%	26 8.64%	0 0.00%	5 1.66%	1 0.33%	0 0.00%	1 0.33%	3 1.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 0.33%	301 100.00	6 1.99%	4 1.33%	10 3.32%
17	1 0.35%	252 88.73%	22 7.75%	2 0.70%	3 1.06%	3 1.06%	0 0.00%	0 0.00%	1 0.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	284 100.00	8 2.82%	1 0.35%	9 3.17%
18	2 0.76%	242 92.37%	14 5.34%	0 0.00%	2 0.76%	1 0.38%	0 0.00%	0 0.00%	1 0.38%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	262 100.00	3 1.15%	1 0.38%	4 1.53%
19	1 0.43%	209 90.09%	15 6.47%	0 0.00%	5 2.16%	0 0.00%	0 0.00%	0 0.00%	1 0.43%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 0.43%	232 100.00	5 2.16%	1 0.43%	6 2.59%
20	0 0.00%	202 94.84%	9 4.23%	0 0.00%	2 0.94%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	213 100.00	2 0.94%	0 0.00%	2 0.94%
21	3 2.07%	131 90.34%	9 6.21%	0 0.00%	2 1.38%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	145 100.00	2 1.38%	0 0.00%	2 1.38%
22	0 0.00%	88 92.63%	3 3.16%	0 0.00%	2 2.11%	2 2.11%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	95 100.00	4 4.21%	0 0.00%	4 4.21%
23	0 0.00%	61 95.31%	3 4.69%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	64 100.00	0 0.00%	0 0.00%	0 0.00%
Total	13 0.49%	2,311 86.62%	218 8.17%	9 0.34%	62 2.32%	22 0.82%	0 0.00%	2 0.07%	23 0.86%	1 0.04%	0 0.00%	0 0.00%	0 0.00%	7 0.26%	2,668 100.00	93 3.49%	26 0.97%	119 4.46%
Total Count	13 0.49%	2,311 86.62%	218 8.17%	9 0.34%	62 2.32%	22 0.82%	0 0.00%	2 0.07%	23 0.86%	1 0.04%	0 0.00%	0 0.00%	0 0.00%	7 0.26%	2,668 100.00	93 3.49%	26 0.97%	119 4.46%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 25, 2019 South

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	37	3	0	1	0	0	0	0	0	0	0	0	0	41	1	0	1
	0.00%	90.24%	7.32%	0.00%	2.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.44%	0.00%	2.44%
01	0	11	1	0	0	1	0	0	1	0	0	0	0	0	14	1	1	2
	0.00%	78.57%	7.14%	0.00%	0.00%	7.14%	0.00%	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	7.14%	7.14%	14.29%
02	0	20	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0
	0.00%	100.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
03	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
	0.00%	100.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
04	0	22	4	0	1	0	0	0	3	0	0	0	0	0	30	1	3	4
	0.00%	73.33%	13.33%	0.00%	3.33%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.33%	10.00%	13.33%
05	0	50	18	1	4	1	0	0	0	0	0	0	0	0	74	6	0	6
	0.00%	67.57%	24.32%	1.35%	5.41%	1.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	8.11%	0.00%	8.11%
06	0	120	20	2	5	3	0	0	3	0	0	0	0	0	153	10	3	13
	0.00%	78.43%	13.07%	1.31%	3.27%	1.96%	0.00%	0.00%	1.96%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.54%	1.96%	8.50%
07	2	225	33	3	7	8	0	0	1	1	0	0	0	0	280	18	2	20
	0.71%	80.36%	11.79%	1.07%	2.50%	2.86%	0.00%	0.00%	0.36%	0.36%	0.00%	0.00%	0.00%	0.00%	100.00	6.43%	0.71%	7.14%
08	1	237	29	1	7	2	0	0	1	0	0	0	0	1	279	10	1	11
	0.36%	84.95%	10.39%	0.36%	2.51%	0.72%	0.00%	0.00%	0.36%	0.00%	0.00%	0.00%	0.00%	0.36%	100.00	3.58%	0.36%	3.94%
09	1	198	26	1	14	4	0	0	5	1	0	0	0	2	252	19	6	25
	0.40%	78.57%	10.32%	0.40%	5.56%	1.59%	0.00%	0.00%	1.98%	0.40%	0.00%	0.00%	0.00%	0.79%	100.00	7.54%	2.38%	9.92%
10	1	199	27	3	15	3	1	3	7	0	0	0	0	0	259	22	10	32
	0.39%	76.83%	10.42%	1.16%	5.79%	1.16%	0.39%	1.16%	2.70%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	8.49%	3.86%	12.36%
11	0	208	19	1	11	4	0	1	6	1	0	0	0	0	251	16	8	24
	0.00%	82.87%	7.57%	0.40%	4.38%	1.59%	0.00%	0.40%	2.39%	0.40%	0.00%	0.00%	0.00%	0.00%	100.00	6.37%	3.19%	9.56%
12	1	204	27	5	15	5	0	1	7	0	0	0	0	0	265	25	8	33
	0.38%	76.98%	10.19%	1.89%	5.66%	1.89%	0.00%	0.38%	2.64%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	9.43%	3.02%	12.45%
13	2	215	25	1	15	7	0	3	6	0	0	0	0	1	275	23	9	32
	0.73%	78.18%	9.09%	0.36%	5.45%	2.55%	0.00%	1.09%	2.18%	0.00%	0.00%	0.00%	0.00%	0.36%	100.00	8.36%	3.27%	11.64%
14	6	199	33	4	13	6	0	0	2	0	0	0	0	0	263	23	2	25
	2.28%	75.67%	12.55%	1.52%	4.94%	2.28%	0.00%	0.00%	0.76%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	8.75%	0.76%	9.51%
15	0	193	42	1	17	0	0	2	1	0	0	0	0	0	256	18	3	21
	0.00%	75.39%	16.41%	0.39%	6.64%	0.00%	0.00%	0.78%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	7.03%	1.17%	8.20%
16	0	243	23	0	3	1	0	0	2	0	0	0	0	0	272	4	2	6
	0.00%	89.34%	8.46%	0.00%	1.10%	0.37%	0.00%	0.00%	0.74%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.47%	0.74%	2.21%
17	2	251	18	3	5	2	0	1	2	0	0	0	0	2	286	10	3	13
	0.70%	87.76%	6.29%	1.05%	1.75%	0.70%	0.00%	0.35%	0.70%	0.00%	0.00%	0.00%	0.00%	0.70%	100.00	3.50%	1.05%	4.55%
18	0	233	20	0	3	0	0	0	1	0	0	0	0	4	261	3	1	4
	0.00%	89.27%	7.66%	0.00%	1.15%	0.00%	0.00%	0.00%	0.38%	0.00%	0.00%	0.00%	0.00%	1.53%	100.00	1.15%	0.38%	1.53%
19	0	223	20	0	3	0	0	0	0	0	0	0	0	0	246	3	0	3
	0.00%	90.65%	8.13%	0.00%	1.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.22%	0.00%	1.22%
20	1	175	13	0	1	1	0	0	1	0	0	0	0	0	192	2	1	3
	0.52%	91.15%	6.77%	0.00%	0.52%	0.52%	0.00%	0.00%	0.52%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.04%	0.52%	1.56%
21	0	161	10	0	2	0	0	0	1	0	0	0	0	0	174	2	1	3
	0.00%	92.53%	5.75%	0.00%	1.15%	0.00%	0.00%	0.00%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.15%	0.57%	1.72%
22	1	87	6	0	1	0	0	0	0	0	0	0	0	0	95	1	0	1
	1.05%	91.58%	6.32%	0.00%	1.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.05%	0.00%	1.05%
23	0	61	5	0	0	0	0	0	0	0	0	0	0	0	66	0	0	0
	0.00%	92.42%	7.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
Total	18	3,579	422	26	143	48	1	11	50	3	0	0	0	10	4,311	218	64	282
	0.42%	83.02%	9.79%	0.60%	3.32%	1.11%	0.02%	0.26%	1.16%	0.07%	0.00%	0.00%	0.00%	0.23%	100.00	5.06%	1.48%	6.54%
Total Count	18	3,579	422	26	143	48	1	11	50	3	0	0	0	10	4,311	218	64	282
	0.42%	83.02%	9.79%	0.60%	3.32%	1.11%	0.02%	0.26%	1.16%	0.07%	0.00%	0.00%	0.00%	0.23%	100.00	5.06%	1.48%	6.54%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

June 26, 2019 South

Site names:	091210	Seasonal Factor Grp:	rg1_4U
County:	MIDDLESEX	Daily Factor Grp:	rg1_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg1_4U
Location:	Bet Irving St and Florence St	Growth Factor Grp:	rg1_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0 0.00%	38 86.36%	2 4.55%	0 0.00%	1 2.27%	1 2.27%	0 0.00%	0 0.00%	2 4.55%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	44 100.00	2 4.55%	2 4.55%	4 9.09%
01	0 0.00%	19 82.61%	4 17.39%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	23 100.00	0 0.00%	0 0.00%	0 0.00%
02	0 0.00%	12 80.00%	1 6.67%	0 0.00%	1 6.67%	0 0.00%	0 0.00%	0 0.00%	1 6.67%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	15 100.00	1 6.67%	1 6.67%	2 13.33%
03	1 6.25%	12 75.00%	0 0.00%	0 0.00%	2 12.50%	1 6.25%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	16 100.00	3 18.75%	0 0.00%	3 18.75%
04	0 0.00%	22 73.33%	6 20.00%	0 0.00%	1 3.33%	1 3.33%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	30 100.00	2 6.67%	0 0.00%	2 6.67%
05	0 0.00%	60 75.95%	14 17.72%	0 0.00%	1 1.27%	1 1.27%	0 0.00%	0 0.00%	3 3.80%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	79 100.00	2 2.53%	3 3.80%	5 6.33%
06	0 0.00%	128 77.58%	25 15.15%	0 0.00%	7 4.24%	2 1.21%	0 0.00%	0 0.00%	3 1.82%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	165 100.00	9 5.45%	3 1.82%	12 7.27%
07	2 0.71%	220 78.01%	40 14.18%	1 0.35%	9 3.19%	8 2.84%	0 0.00%	0 0.00%	2 0.71%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	282 100.00	18 6.38%	2 0.71%	20 7.09%
08	2 0.73%	219 79.64%	30 10.91%	1 0.36%	11 4.00%	7 2.55%	0 0.00%	1 0.36%	2 0.73%	1 0.36%	0 0.00%	0 0.00%	0 0.00%	1 0.36%	275 100.00	19 6.91%	4 1.45%	23 8.36%
09	1 0.39%	214 84.25%	22 8.66%	5 1.97%	7 2.76%	2 0.79%	0 0.00%	1 0.39%	1 0.39%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 0.39%	254 100.00	14 5.51%	2 0.79%	16 6.30%
10	2 0.85%	186 79.49%	18 7.69%	4 1.71%	9 3.85%	6 2.56%	0 0.00%	1 0.43%	6 2.56%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 0.85%	234 100.00	19 8.12%	7 2.99%	26 11.11%
11	6 2.07%	231 79.66%	38 13.10%	1 0.34%	9 3.10%	3 1.03%	0 0.00%	0 0.00%	2 0.69%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	290 100.00	13 4.48%	2 0.69%	15 5.17%
Total	14 0.82%	1,361 79.73%	200 11.72%	12 0.70%	58 3.40%	32 1.87%	0 0.00%	3 0.18%	22 1.29%	1 0.06%	0 0.00%	0 0.00%	0 0.00%	4 0.23%	1,707 100.00	102 5.98%	26 1.52%	128 7.50%
Total Count	14 0.82%	1,361 79.73%	200 11.72%	12 0.70%	58 3.40%	32 1.87%	0 0.00%	3 0.18%	22 1.29%	1 0.06%	0 0.00%	0 0.00%	0 0.00%	4 0.23%	1,707 100.00	102 5.98%	26 1.52%	128 7.50%

New Jersey Department of Transportation

Count Class Distribution for 06/24/2019 through 06/26/2019

Site names: 091210
County: MIDDLESEX
Funct Class: Urban Minor Arterial
Location: Bet Irving St and Florence St

Seasonal Factor Grp: rg1_4U
Daily Factor Grp: rg1_4U
Axle Factor Grp: rg1_4U
Growth Factor Grp: rg1_4U

	Road	N	S
MC	59 .46%	14 .33%	45 .52%
CAR	10,709 82.96%	3,458 81.88%	7,251 83.48%
PU	1,321 10.23%	481 11.39%	840 9.67%
BUS	56 .43%	9 .21%	47 .54%
2D	376 2.91%	113 2.68%	263 3.03%
SU 3	158 1.22%	56 1.33%	102 1.17%
SU 4+	2 .02%	1 .02%	1 .01%
ST 4-	24 .19%	8 .19%	16 .18%
ST 5	167 1.29%	72 1.70%	95 1.09%
ST 6+	13 .10%	8 .19%	5 .06%
MT 5-	0 .00%	0 .00%	0 .00%
MT 6	0 .00%	0 .00%	0 .00%
MT 7+	0 .00%	0 .00%	0 .00%
UNCLS	24 .19%	3 .07%	21 .24%
Trucks	796 6.17%	267 6.32%	529 6.09%
Combo Trucks	204 1.58%	88 2.08%	116 1.34%
Classified	12,885 99.81%	4,220 99.93%	8,665 99.76%
Volume	12,909 100.00%	4,223 100.00%	8,686 100.00%

Notes:

06/24/2019 STAADTPctDiff Failed : The count AADT (5482.5) is 23.7% different from the prior count
06/25/2019 STAADTPctDiff Failed : The count AADT (5482.5) is 23.7% different from the prior count
06/26/2019 STAADTPctDiff Failed : The count AADT (5482.5) is 23.7% different from the prior count

Appendix C

Crash Diagram and Summary Table

MATCH LINE SHEET B-4



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle		Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Opposite Direction Side Swipe	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Left Turn	Head On
	Fixed Object		Rear End
	Non-Fixed Object	Right Angle	
	Animal		

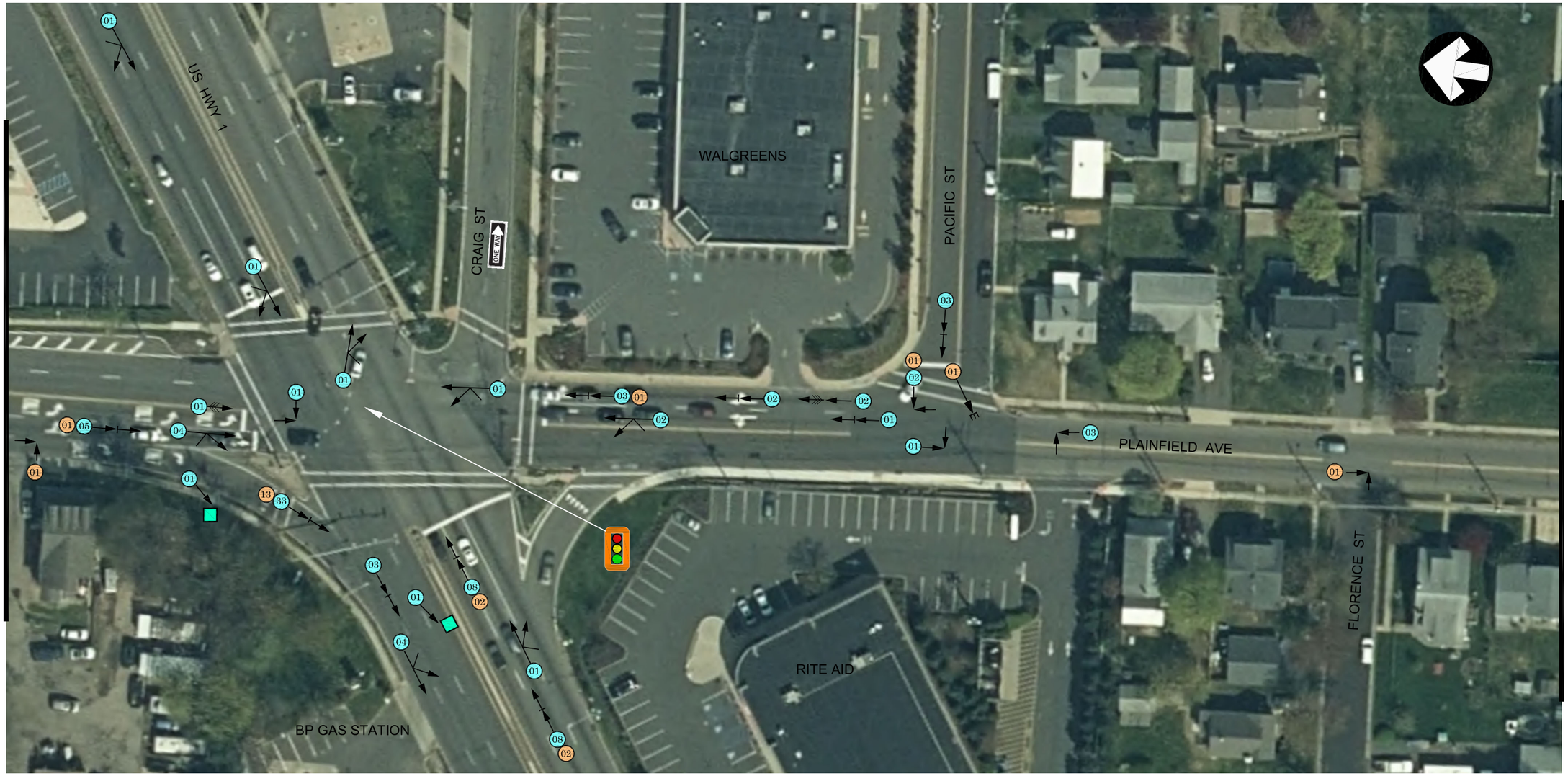
MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (1 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec	Scale: 1”=60’	B-3



SYMBOLS		TYPES OF COLLISIONS	
NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

Note:
1 BACKING CRASH AT
PLAINFIELD AVE & PACIFIC AVE
WITH UNKNOWN LOCATION

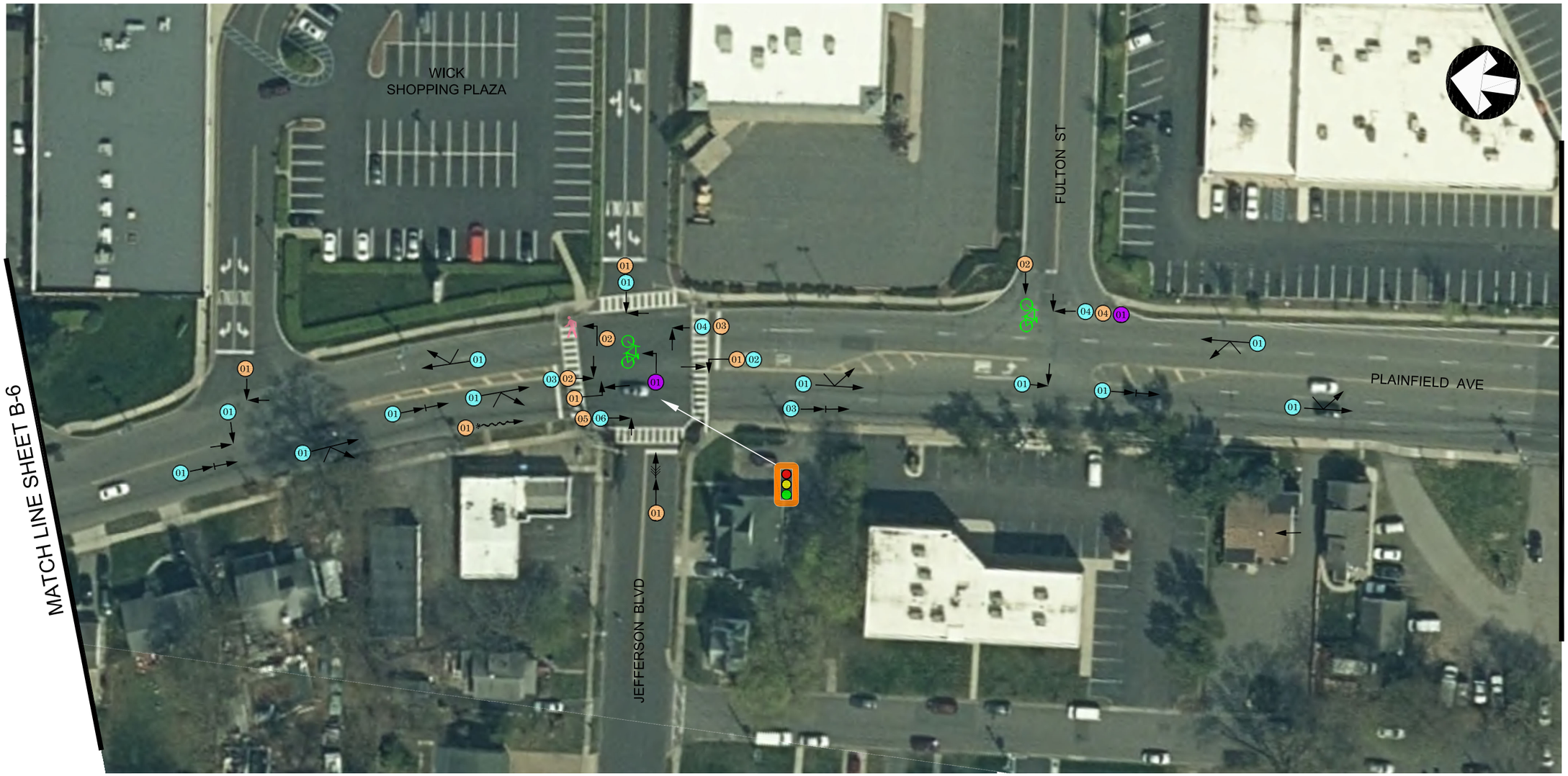
MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (2 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-4



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

Note:
1 REAR END CRASH AT
PLAINFIELD AVE & JEFFERSON BLVD
WITH UNKNOWN APPROACH DIRECTION.

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (3 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-5



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (4 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-6

MATCH LINE SHEET B-8



MATCH LINE SHEET B-6

SYMBOLS		TYPES OF COLLISIONS	
# PDO	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (5 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-7



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (6 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-8



SYMBOLS

- NO INJURY
- INJURY
- FATAL or SERIOUS INJURY
- SIGNALIZED INTERSECTION
- Parked Vehicle
- Backing Vehicle
- Cyclist
- Pedestrian
- Fixed Object
- Non-Fixed Object
- Animal

TYPES OF COLLISIONS

- Same Direction Side Swipe
- Opposite Direction Side Swipe
- Left Turn
- Right Angle
- Moving Vehicle
- Out Of Control
- E Encroachment
- Head On
- Rear End

Note:
11 RIGHT ANGLE CRASHES AT
PLAINFIELD AVE & GREENWOOD AVE
WITH UNKNOWN APPROACH DIRECTION

2 REAR END CRASHES AT
PLAINFIELD AVE & RT 27 (LINCOLN HIGHWAY)
WITH UNKNOWN APPROACH DIRECTION

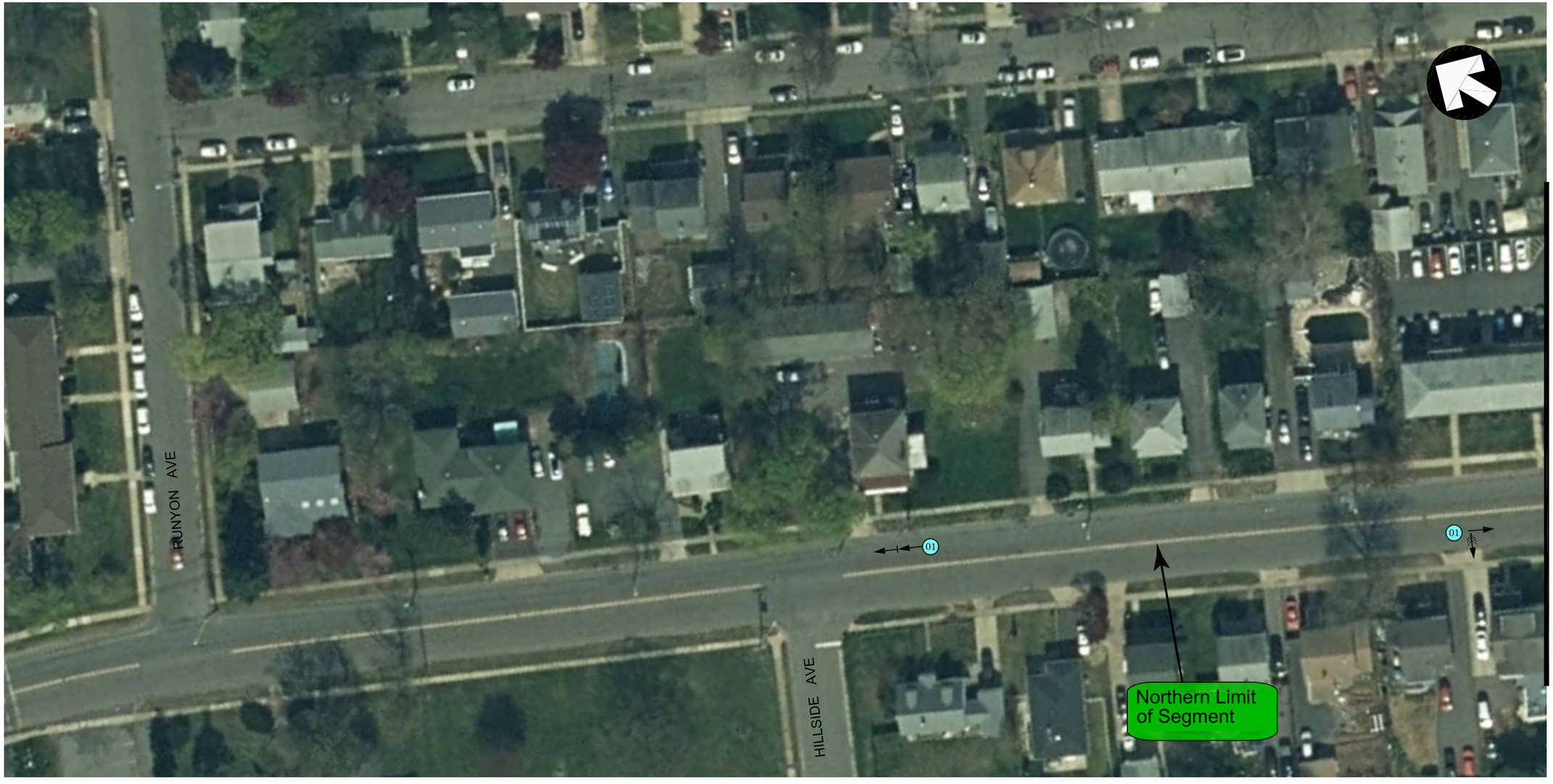
MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (7 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-9



SYMBOLS		TYPES OF COLLISIONS	
# NO INJURY	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle		Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Opposite Direction Side Swipe	E Encroachment
	Pedestrian		Head On
SIGNALIZED INTERSECTION	Fixed Object	Left Turn	Rear End
	Non-Fixed Object	Right Angle	
	Animal		

Note:
5 RIGHT ANGLE CRASHES AT PLAINFIELD AVE & GREENWOOD AVE WITH UNKNOWN APPROACH DIRECTION

1 REAR END CRASH AT PLAINFIELD AVE & RT 27 WITH UNLNOWN APPROACH DIRECTION

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (8 OF 8)

CR 529 PLAINFIELD AVE
EDISON TOWNSHIP

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-10

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
19032327	05/23/19	7:14 PM	Pedalcyclist	Suspected Serious Injury	Daylight	Dry
20012676	03/03/20	3:00 PM	Pedestrian	Possible Injury	Daylight	Wet
21000393	01/03/21	2:21 PM	Right Angle	No Apparent Injury	Daylight	Wet
21002418	01/15/21	3:38 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21038903	07/08/21	5:18 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21002768	01/17/21	1:31 PM	Right Angle	Possible Injury	Daylight	Dry
21003412	01/20/21	5:43 AM	Fixed Object	Possible Injury	Dark - Lighted	Dry
21003548	01/21/21	5:33 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21004614	01/27/21	10:06 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21005324	01/31/21	3:02 PM	Right Angle	Possible Injury	Daylight	Snowy
21007105	02/09/21	6:11 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21007199	02/10/21	9:18 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21012228	03/07/21	3:55 PM	Right Angle	No Apparent Injury	Daylight	Dry
21012906	03/10/21	5:09 PM	Right Angle	No Apparent Injury	Daylight	Dry
21013629	03/13/21	5:17 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21013943	03/15/21	11:00 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21014034	03/15/21	8:46 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21014377	03/17/21	12:48 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21015590	03/23/21	7:58 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21017548	03/31/21	11:38 AM	Backing	No Apparent Injury	Daylight	Dry
21017803	04/01/21	5:04 PM	Right Angle	No Apparent Injury	Daylight	Dry
21018932	04/07/21	4:39 PM	Pedestrian	Possible Injury	Daylight	Dry
21020081	04/13/21	4:41 PM	Right Angle	No Apparent Injury	Daylight	Dry
21020091	04/13/21	5:16 PM	Right Angle	No Apparent Injury	Daylight	Dry
21020690	04/16/21	9:13 PM	Right Angle	Possible Injury	Dark - Lighted	Wet
21022673	04/26/21	6:29 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21025380	05/08/21	10:58 AM	Right Angle	Possible Injury	Daylight	Wet
21024974	05/06/21	5:23 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21025767	05/10/21	3:08 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21025782	05/10/21	4:27 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21026347	05/12/21	2:12 AM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21026777	05/14/21	7:38 PM	Same Direction - Rear End	Suspected Minor Injury	Dusk	Dry
21028832	05/24/21	7:18 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21029003	05/25/21	1:45 PM	Right Angle	No Apparent Injury	Daylight	Dry
21029275	05/26/21	3:39 PM	Right Angle	Possible Injury	Daylight	Dry
21029507	05/27/21	1:12 PM	Right Angle	No Apparent Injury	Daylight	Dry
21031418	06/05/21	11:40 AM	Right Angle	No Apparent Injury	Daylight	Dry
21031613	06/06/21	12:11 PM	Right Angle	No Apparent Injury	Daylight	Dry
21031691	06/06/21	5:52 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
21032383	06/09/21	11:35 AM	Right Angle	Possible Injury	Daylight	Dry
21032936	06/11/21	3:34 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21033568	06/14/21	6:47 PM	Right Angle	Possible Injury	Daylight	Dry
21034334	06/17/21	5:28 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21034135	06/16/21	7:43 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21034596	06/18/21	3:45 PM	Pedestrian	Suspected Serious Injury	Daylight	Dry
21034928	06/20/21	11:33 AM	Right Angle	No Apparent Injury	Daylight	Dry
21036980	06/29/21	6:00 PM	Right Angle	No Apparent Injury	Daylight	Dry
21037750	07/02/21	11:56 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
21037842	07/03/21	2:55 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
21038573	07/07/21	6:39 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21039031	07/09/21	12:19 PM	Right Angle	No Apparent Injury	Daylight	Dry
21039479	07/11/21	10:53 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21039519	07/12/21	8:19 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21040326	07/16/21	8:56 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21040683	07/17/21	11:49 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
21040804	07/18/21	6:24 PM	Right Angle	No Apparent Injury	Daylight	Dry
21040908	07/19/21	10:26 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21041193	07/20/21	7:38 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21041451	07/22/21	10:26 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21041549	07/22/21	6:41 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21041686	07/23/21	12:19 PM	Right Angle	No Apparent Injury	Daylight	Dry
21042586	07/27/21	7:13 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21043040	07/30/21	8:47 AM	Right Angle	No Apparent Injury	Daylight	Dry
21043526	08/01/21	3:48 PM	Right Angle	No Apparent Injury	Daylight	Dry
21043867	08/03/21	7:40 AM	Right Angle	Possible Injury	Daylight	Dry
21043873	08/03/21	8:19 AM	Struck Parked Vehicle	No Apparent Injury	Daylight	Dry
21044650	08/06/21	12:51 PM	Right Angle	No Apparent Injury	Daylight	Dry
21046195	08/14/21	10:40 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21046379	08/15/21	12:29 PM	Right Angle	No Apparent Injury	Daylight	Dry
21047941	08/23/21	9:47 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
21048701	08/26/21	2:53 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21048871	08/27/21	11:06 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21052665	09/10/21	12:58 PM	Right Angle	Possible Injury	Daylight	Dry
21053143	09/12/21	8:54 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21053206	09/13/21	5:34 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Dry
21053370	09/13/21	4:34 PM	Right Angle	No Apparent Injury	Daylight	Dry
21053576	09/14/21	12:33 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
21053647	09/14/21	5:25 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21054617	09/19/21	3:38 PM	Right Angle	Possible Injury	Daylight	Dry
21055496	09/22/21	9:00 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21056052	09/24/21	8:07 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Water (Standing/M
21056191	09/24/21	6:27 PM	Right Angle	Possible Injury	Dusk	Dry
21056791	09/27/21	3:41 PM	Right Angle	No Apparent Injury	Daylight	Dry
21057537	09/30/21	2:07 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21058093	10/02/21	8:40 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21058598	10/05/21	8:49 AM	Fixed Object	No Apparent Injury	Daylight	Dry
21058610	10/05/21	9:18 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
21058855	10/06/21	8:51 AM	Backing	No Apparent Injury	Daylight	Dry
21059424	10/08/21	3:50 PM	Right Angle	Possible Injury	Daylight	Dry
21059502	10/08/21	9:31 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21060259	10/12/21	12:33 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21061697	10/18/21	5:00 PM	Same Direction - Sideswipe	Possible Injury	Daylight	Dry
21062525	10/21/21	4:38 PM	Left Turn/U Turn	Possible Injury	Daylight	Dry
21063547	10/26/21	10:27 AM	Pedalcyclist	Possible Injury	Daylight	Wet
21063866	10/27/21	3:11 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21065394	11/03/21	10:00 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21065450	11/03/21	2:20 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21065967	11/05/21	3:28 PM	Right Angle	Possible Injury	Daylight	Dry
21065977	11/05/21	3:53 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
21067743	11/12/21	5:49 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21067983	11/13/21	5:57 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Wet
21068126	11/14/21	1:53 PM	Right Angle	Possible Injury	Daylight	Dry
21069302	11/19/21	11:19 AM	Right Angle	Possible Injury	Daylight	Dry
21069339	11/19/21	2:35 PM	Fixed Object	No Apparent Injury	Daylight	Dry
21069712	11/21/21	12:58 PM	Right Angle	No Apparent Injury	Daylight	Dry
21070189	11/23/21	1:47 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
21070233	11/23/21	5:03 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21070250	11/23/21	6:34 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21070774	11/26/21	12:09 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21071167	12/01/21	12:21 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21072033	12/02/21	11:15 AM	Right Angle	No Apparent Injury	Daylight	Dry
21072964	12/06/21	7:03 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21073482	12/08/21	5:59 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21073884	12/10/21	1:11 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
21074115	12/11/21	12:05 PM	Right Angle	Possible Injury	Daylight	Wet
21074347	12/12/21	4:47 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21076142	12/20/21	9:42 AM	Right Angle	Possible Injury	Daylight	Dry
21076232	12/20/21	5:24 PM	Pedestrian	Possible Injury	Dark - Lighted	Dry
21076254	12/20/21	7:26 PM	Right Angle	Suspected Minor Injury	Dark - Lighted	Dry
21076664	12/22/21	1:58 PM	Right Angle	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21077452	12/26/21	6:07 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
21077524	12/27/21	9:44 AM	Right Angle	Possible Injury	Daylight	Dry
21077640	12/27/21	11:06 PM	Fixed Object	No Apparent Injury	Dark - Lighted	Wet
21077786	12/28/21	5:16 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22000503	01/03/22	5:25 PM	Backing	No Apparent Injury	Dark - Lighted	Dry
22002243	01/11/22	3:39 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22003410	01/16/22	9:21 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Slush
22004325	01/20/22	11:04 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
22004379	01/20/22	2:44 PM	Right Angle	Possible Injury	Daylight	Wet
22005029	01/23/22	1:33 PM	Right Angle	No Apparent Injury	Daylight	Dry
22006503	01/30/22	2:01 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
22006597	01/30/22	4:49 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22006749	01/31/22	5:44 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22007390	02/03/22	6:07 PM	Backing	No Apparent Injury	Dark - Not Lighted	Wet
22007712	02/05/22	11:49 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22007910	02/06/22	12:01 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22008069	02/07/22	8:55 AM	Fixed Object	Possible Injury	Daylight	Wet
22008765	02/10/22	8:50 AM	Right Angle	No Apparent Injury	Daylight	Dry
22008807	02/10/22	12:01 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22009655	02/14/22	5:04 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22010385	02/17/22	1:26 PM	Right Angle	No Apparent Injury	Daylight	Dry
22010633	02/18/22	11:44 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22010695	02/18/22	4:35 PM	Right Angle	No Apparent Injury	Daylight	Dry
22010710	02/18/22	5:35 PM	Fixed Object	No Apparent Injury	Daylight	Dry
22010732	02/18/22	7:45 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22010768	02/19/22	2:25 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Dry
22011274	02/21/22	5:57 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22011659	02/23/22	10:42 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22011722	02/23/22	2:06 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22012321	02/26/22	4:50 AM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22012403	02/26/22	5:12 PM	Right Angle	Suspected Minor Injury	Dusk	Dry
22032531	05/28/22	2:46 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22013486	03/03/22	7:06 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22013637	03/04/22	9:53 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22014987	03/10/22	8:34 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22016892	03/18/22	12:03 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22016966	03/18/22	5:04 PM	Right Angle	No Apparent Injury	Daylight	Dry
22017367	03/20/22	4:15 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22017604	03/21/22	4:33 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
22017656	03/21/22	8:54 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22018646	03/26/22	12:35 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22018654	03/26/22	1:18 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22019500	03/30/22	3:08 PM	Right Angle	Possible Injury	Daylight	Dry
22019731	03/31/22	2:56 PM	Right Angle	No Apparent Injury	Daylight	Dry
22019909	04/01/22	9:49 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22019987	04/01/22	3:29 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22020192	04/02/22	3:14 PM	Right Angle	No Apparent Injury	Daylight	Dry
22021166	04/06/22	8:56 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
22021867	04/09/22	12:59 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22022076	04/10/22	2:51 PM	Right Angle	No Apparent Injury	Daylight	Dry
22022278	04/09/22	3:26 PM	Right Angle	Possible Injury	Daylight	Dry
22022557	04/12/22	5:19 PM	Right Angle	No Apparent Injury	Daylight	Dry
22023930	04/18/22	9:22 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
22024094	04/19/22	4:24 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22024559	04/21/22	8:21 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22024887	04/23/22	11:29 AM	Right Angle	No Apparent Injury	Daylight	Dry
22026264	04/29/22	9:24 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22027346	05/05/22	11:13 AM	Right Angle	No Apparent Injury	Daylight	Dry
22027639	05/06/22	5:09 PM	Right Angle	No Apparent Injury	Daylight	Wet
22028842	05/12/22	3:00 PM	Right Angle	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
22030393	05/19/22	2:53 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22030806	05/21/22	11:32 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22033321	06/01/22	7:48 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22033468	06/01/22	5:23 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22033997	06/03/22	7:04 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22034831	06/07/22	4:10 PM	Opposite Direction (Sideswipe)	No Apparent Injury	Daylight	Dry
22035067	06/08/22	4:03 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22036753	06/15/22	6:06 PM	Right Angle	No Apparent Injury	Daylight	Dry
22036954	06/16/22	2:44 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22037176	06/17/22	2:07 PM	Right Angle	Possible Injury	Daylight	Dry
22037845	06/20/22	4:13 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22041502	07/07/22	6:52 PM	Right Angle	Possible Injury	Daylight	Dry
22042433	07/12/22	2:06 PM	Right Angle	No Apparent Injury	Daylight	Dry
22043256	07/16/22	11:46 AM	Right Angle	Possible Injury	Daylight	Dry
22045464	07/28/22	8:26 AM	Right Angle	No Apparent Injury	Daylight	Dry
22046779	08/03/22	8:53 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22049066	08/14/22	7:33 PM	Right Angle	No Apparent Injury	Daylight	Dry
22049129	08/15/22	7:47 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22050254	08/20/22	3:03 PM	Right Angle	No Apparent Injury	Daylight	Dry
22050881	08/23/22	4:27 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22051060	08/24/22	12:30 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22051102	08/24/22	7:52 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Not Lighted	Dry
22052342	08/30/22	6:43 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22052684	09/01/22	11:17 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22052849	09/02/22	8:46 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22053830	09/07/22	9:30 AM	Right Angle	No Apparent Injury	Daylight	Wet
22053884	09/07/22	2:09 PM	Right Angle	Possible Injury	Daylight	Dry
22053915	09/07/22	4:15 PM	Right Angle	No Apparent Injury	Daylight	Dry
22058315	09/28/22	3:05 PM	Right Angle	Possible Injury	Daylight	Dry
22058532	09/29/22	1:52 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22059305	10/03/22	12:00 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22060674	10/09/22	1:42 PM	Right Angle	No Apparent Injury	Daylight	Dry
22061736	10/14/22	12:21 PM	Pedalcyclist	Suspected Minor Injury	Daylight	Dry
22061737	10/14/22	12:26 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
22061822	10/14/22	7:02 PM	Right Angle	Suspected Minor Injury	Dark - Lighted	Dry
22061953	10/15/22	12:21 PM	Right Angle	Possible Injury	Daylight	Dry
22062584	10/18/22	5:30 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22062966	10/20/22	10:37 AM	Right Angle	No Apparent Injury	Daylight	Dry
22063767	10/23/22	6:22 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
22064690	10/27/22	6:41 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22065038	10/29/22	12:38 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
22065517	10/31/22	5:39 PM	Same Direction - Sideswipe	No Apparent Injury	Dusk	Dry
22066116	11/03/22	11:55 AM	Right Angle	Possible Injury	Daylight	Dry
22067562	11/10/22	4:08 PM	Right Angle	No Apparent Injury	Daylight	Dry
22067904	11/12/22	2:48 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22068313	11/14/22	5:26 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22068540	11/15/22	8:34 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
22070147	11/23/22	11:56 AM	Right Angle	No Apparent Injury	Daylight	Dry
22070254	11/23/22	7:19 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22070368	11/24/22	2:49 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22071120	11/28/22	5:19 PM	Right Angle	Possible Injury	Daylight	Dry
22072701	12/05/22	5:03 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22073733	12/10/22	11:15 AM	Fixed Object	No Apparent Injury	Daylight	Dry
22074245	12/12/22	2:30 PM	Right Angle	No Apparent Injury	Daylight	Dry
22074847	12/15/22	12:14 PM	Left Turn/U Turn	Possible Injury	Daylight	Wet
22075103	12/16/22	12:30 PM	Right Angle	No Apparent Injury	Daylight	Wet
22075939	12/20/22	4:18 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22076472	12/22/22	5:17 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
22076650	12/23/22	12:38 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22076977	12/24/22	6:20 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23000543	01/03/23	5:45 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
23001447	01/07/23	7:55 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23003171	01/16/23	11:28 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23003588	01/18/23	8:42 AM	Right Angle	No Apparent Injury	Daylight	Dry
23004109	01/20/23	3:36 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23004114	01/20/23	4:17 PM	Right Angle	Possible Injury	Daylight	Dry
23004321	01/21/23	3:40 PM	Right Angle	Possible Injury	Daylight	Dry
23006137	01/30/23	4:55 PM	Right Angle	No Apparent Injury	Daylight	Dry
23006150	01/30/23	7:02 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23006265	01/31/23	8:28 AM	Pedalcyclist	No Apparent Injury	Daylight	Wet
23008473	02/09/23	3:35 PM	Right Angle	No Apparent Injury	Daylight	Dry
23008504	02/09/23	6:10 PM	Right Angle	Possible Injury	Dark - Lighted	Dry
23009337	02/13/23	3:04 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23009383	02/13/23	7:59 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
23009385	02/13/23	8:19 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23009544	02/14/23	1:58 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23009607	02/14/23	7:08 PM	Right Angle	Possible Injury	Dark - Lighted	Dry
23011030	02/21/23	3:27 PM	Right Angle	No Apparent Injury	Daylight	Dry
23011302	02/22/23	10:29 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
23011513	02/23/23	11:12 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
23011648	02/24/23	2:47 PM	Right Angle	Possible Injury	Daylight	Dry
23011696	02/24/23	6:10 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23012866	03/02/23	10:42 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23012934	03/02/23	3:55 PM	Right Angle	No Apparent Injury	Daylight	Dry
23013066	03/03/23	8:31 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23014927	03/11/23	2:22 PM	Right Angle	No Apparent Injury	Daylight	Dry
23014931	03/11/23	2:44 PM	Right Angle	No Apparent Injury	Daylight	Dry
23015693	03/15/23	10:59 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23016118	03/17/23	10:02 AM	Right Angle	No Apparent Injury	Daylight	Dry
23016173	03/17/23	2:21 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23016392	03/17/23	1:23 PM	Right Angle	No Apparent Injury	Daylight	Dry
23016465	03/18/23	7:59 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23017919	03/25/23	3:43 PM	Right Angle	No Apparent Injury	Daylight	Wet
23018710	03/29/23	2:08 PM	Right Angle	Possible Injury	Daylight	Dry
23018898	03/30/23	9:09 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23020480	04/06/23	10:50 AM	Right Angle	Possible Injury	Daylight	Dry
23019553	04/02/23	11:27 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
23021624	04/11/23	5:39 PM	Backing	No Apparent Injury	Daylight	Dry
23022123	04/13/23	5:21 PM	Right Angle	Possible Injury	Daylight	Dry
23022391	04/14/23	3:47 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23022450	04/14/23	7:23 PM	Right Angle	No Apparent Injury	Dusk	Dry
23022931	04/17/23	10:07 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
23023357	04/18/23	5:12 PM	Right Angle	No Apparent Injury	Daylight	Dry
23027369	05/05/23	11:38 AM	Right Angle	Suspected Serious Injury	Daylight	Dry
23027809	05/07/23	8:20 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23028518	05/10/23	7:43 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23028526	05/10/23	8:45 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23028802	05/11/23	8:17 AM	Right Angle	No Apparent Injury	Daylight	Dry
23028932	05/11/23	5:31 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23029202	05/12/23	7:20 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23030234	05/17/23	11:59 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23030285	05/17/23	3:25 PM	Pedalcyclist	Suspected Minor Injury	Daylight	Dry
23030740	05/19/23	2:27 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23031383	05/22/23	9:50 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23031451	05/22/23	2:34 PM	Right Angle	Possible Injury	Daylight	Dry
23034395	06/03/23	12:07 PM	Right Angle	No Apparent Injury	Daylight	Dry
23035238	06/06/23	6:44 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23035917	06/08/23	3:30 PM	Backing	No Apparent Injury	Daylight	Dry
23036297	06/11/23	11:18 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23036820	06/13/23	12:47 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23036867	06/13/23	4:03 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23037854	06/17/23	2:20 PM	Right Angle	No Apparent Injury	Daylight	Dry
23038908	06/21/23	5:26 PM	Pedalcyclist	Suspected Minor Injury	Daylight	Dry
23040498	06/28/23	5:41 PM	Right Angle	No Apparent Injury	Daylight	Dry
23043653	07/12/23	4:30 PM	Right Angle	Possible Injury	Daylight	Dry
23043833	07/13/23	9:33 AM	Right Angle	Suspected Minor Injury	Daylight	Dry
23043913	07/13/23	4:20 PM	Right Angle	Possible Injury	Daylight	Dry
23045431	07/20/23	11:41 AM	Right Angle	No Apparent Injury	Daylight	Dry
23-45655	07/21/23	10:32 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23045859	07/22/23	10:34 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23045891	07/22/23	1:01 PM	Right Angle	No Apparent Injury	Daylight	Dry
23046151	07/23/23	6:32 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
23046525	07/25/23	1:13 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
23047658	07/30/23	1:05 PM	Right Angle	Possible Injury	Daylight	Dry
23048779	08/04/23	4:15 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23049151	08/06/23	11:50 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23049393	08/07/23	2:51 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23049561	08/08/23	11:06 AM	Right Angle	Suspected Minor Injury	Daylight	Dry
23050671	08/12/23	5:29 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23051235	08/15/23	1:42 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23053288	08/24/23	5:22 PM	Right Angle	Possible Injury	Daylight	Wet
23053407	08/25/23	9:18 AM	Right Angle	No Apparent Injury	Daylight	Wet
23053413	08/25/23	9:47 AM	Right Angle	No Apparent Injury	Daylight	Wet
23056296	09/07/23	4:59 PM	Right Angle	No Apparent Injury	Daylight	Dry
23056309	09/07/23	4:59 PM	Right Angle	No Apparent Injury	Daylight	Dry
23056904	09/10/23	3:47 PM	Right Angle	No Apparent Injury	Daylight	Dry
23056962	09/10/23	9:03 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Wet
23057105	09/11/23	12:56 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23057344	09/12/23	9:38 AM	Struck Parked Vehicle	No Apparent Injury	Daylight	Dry
23058457	09/17/23	6:18 PM	Right Angle	No Apparent Injury	Dusk	Dry
23059349	09/21/23	4:54 PM	Backing	Possible Injury	Daylight	Dry
23060008	09/24/23	5:58 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Wet
23060583	09/27/23	7:25 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23060915	09/28/23	1:13 PM	Left Turn/U Turn	Suspected Serious Injury	Daylight	Dry
23061183	09/29/23	2:35 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
23063718	10/10/23	1:44 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23065872	10/19/23	6:26 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
23066068	10/20/23	2:38 PM	Pedalcyclist	Suspected Minor Injury	Daylight	Wet
23066147	10/20/23	7:40 PM	Right Angle	Suspected Minor Injury	Dark - Lighted	Wet
23066483	10/22/23	4:24 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23066613	10/23/23	8:30 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23067253	10/25/23	8:13 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23069456	11/04/23	4:13 PM	Right Angle	No Apparent Injury	Daylight	Dry
23070574	11/09/23	8:29 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23070762	11/10/23	4:26 PM	Fixed Object	Possible Injury	Daylight	Dry
23070788	11/10/23	6:08 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23070937	11/11/23	1:45 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23071138	11/12/23	4:23 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
23072522	11/18/23	3:09 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23073194	11/21/23	2:09 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23073227	11/21/23	5:08 PM	Right Angle	Possible Injury	Dark - Lighted	Wet
23073411	11/22/23	11:43 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23073951	11/24/23	7:21 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
23074930	11/28/23	7:03 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23075725	12/01/23	8:23 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
23075888	12/02/23	4:30 PM	Right Angle	No Apparent Injury	Daylight	Dry
23076053	12/03/23	1:49 PM	Right Angle	Possible Injury	Daylight	Wet
23076095	12/03/23	5:37 PM	Right Angle	Possible Injury	Dark - Lighted	Wet
23076237	12/04/23	9:41 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
23077411	12/08/23	9:25 AM	Right Angle	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23077651	12/09/23	9:46 AM	Encroachment	Suspected Minor Injury	Daylight	Dry
23078105	12/11/23	11:37 AM	Right Angle	Suspected Minor Injury	Daylight	Dry
23078812	12/14/23	9:14 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23079600	12/17/23	7:49 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
23079604	12/17/23	8:11 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
23079704	12/18/23	7:04 AM	Right Angle	No Apparent Injury	Dusk	Wet
23081694	12/27/23	1:05 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
23082133	12/29/23	12:51 PM	Right Angle	Possible Injury	Daylight	Dry
23082194	12/29/23	5:18 PM	Pedestrian	Suspected Minor Injury	Daylight	Dry
23065287	10/17/23	11:43 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Appendix D

Local Officials, Pre-Audit Meeting Presentation

PLAINFIELD AVENUE

ROAD SAFETY AUDIT

Local Officials Meeting

October 17, 2024

Introductions: County & NJTPA

- **Andrew Lappitt**
  Project Manager
- **Linda Weber**
  Planning Director
- **George Fallat**
  County Engineering
- **Andy Kaplan – NJTPA**

Middlesex County Facts

- **25 municipalities**
- **~ 830k population**
- **~ 330 miles of county roads**
- **~ 200 traffic signals**

Introductions: Consultant Team

Middlesex County + NJTPA

Adam Catherine
Principal-In-Charge

Matthew Maher
Consultant Team Project Manager

Kati DiRaimondo
Deputy Project Manager

Needs Assessment

Kush Bhagat
Task Leader

Public Involvement

Courtenay Mercer
Task Leader

Data Analysis

Timothy Tresohlavy
Task Leader

Road Safety Audits

Anthony Durante
Task Leader

Agenda

- **Purposes of Meeting**
- **Project Background**
- **What is a Road Safety Audit (RSA)?**
- **Role of Local Officials**
- **CR 529 (Plainfield) Information**
- **Open Discussion about CR 529**
- **Designate RSA Team Members**
- **Logistics Plan**
- **How to Stay Involved**

Purposes of Meeting Today

1. **Gather information on corridor to undergo RSA**
2. **Share logistics plan for RSA effort**

FEDERAL HIGHWAY ADMINISTRATION'S (FHWA'S)
8-STEP ROAD SAFETY AUDIT PROCESS

1. **Select Corridors (DONE)**
2. **Assemble RSA Team (TODAY)**
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report

Project Background

- **Years of safety successes within the County thanks to road safety audits (RSAs)**
  - **Road diet/redesign of Livingston Avenue**
  - **Signalization/ADA improvements by NJ TRANSIT's New Brunswick Station**
- **Advance another five (5) RSAs on different County roadways**
- **Corridor goal:**
  Successfully conduct an RSA in your community
- **Study goal:**
  Reduce fatal and serious injury crashes in the County

LIVINGSTON AVENUE
BEFORE & AFTER





County Road Crash Stats

Over the past 10 Years (2012-2021), on ***County jurisdiction roads*** *per year…*

*~**5,000** crashes*

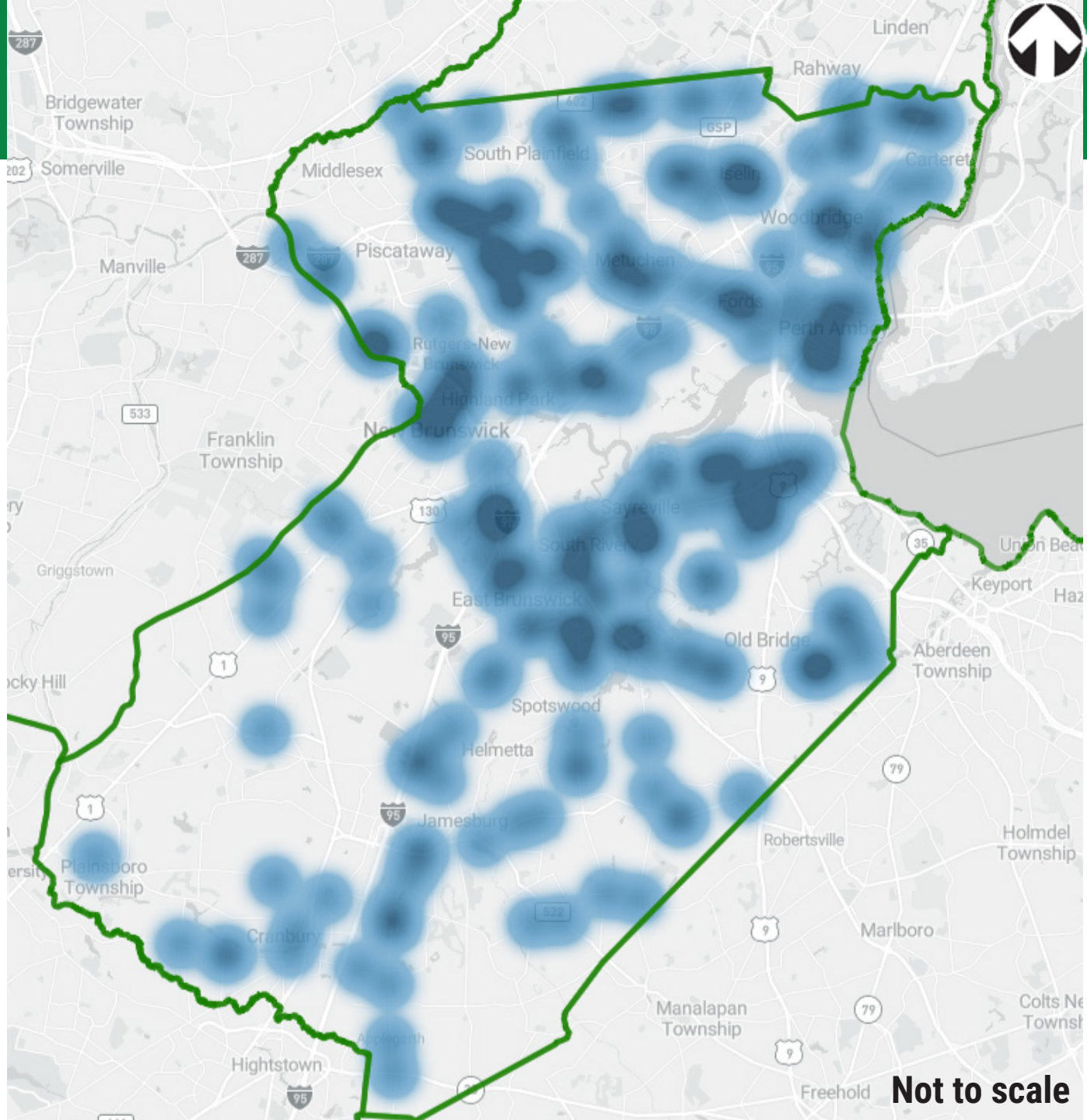
*~**27** serious injury crashes*

*~**10** fatal crashes*

*~**87** ped/bike crashes*

County road crash density map shown on the right half of screen (darker blue=more crashes)

Middlesex County Office of Planning, Plainfield Avenue RSA



What is a Road Safety Audit (RSA)?

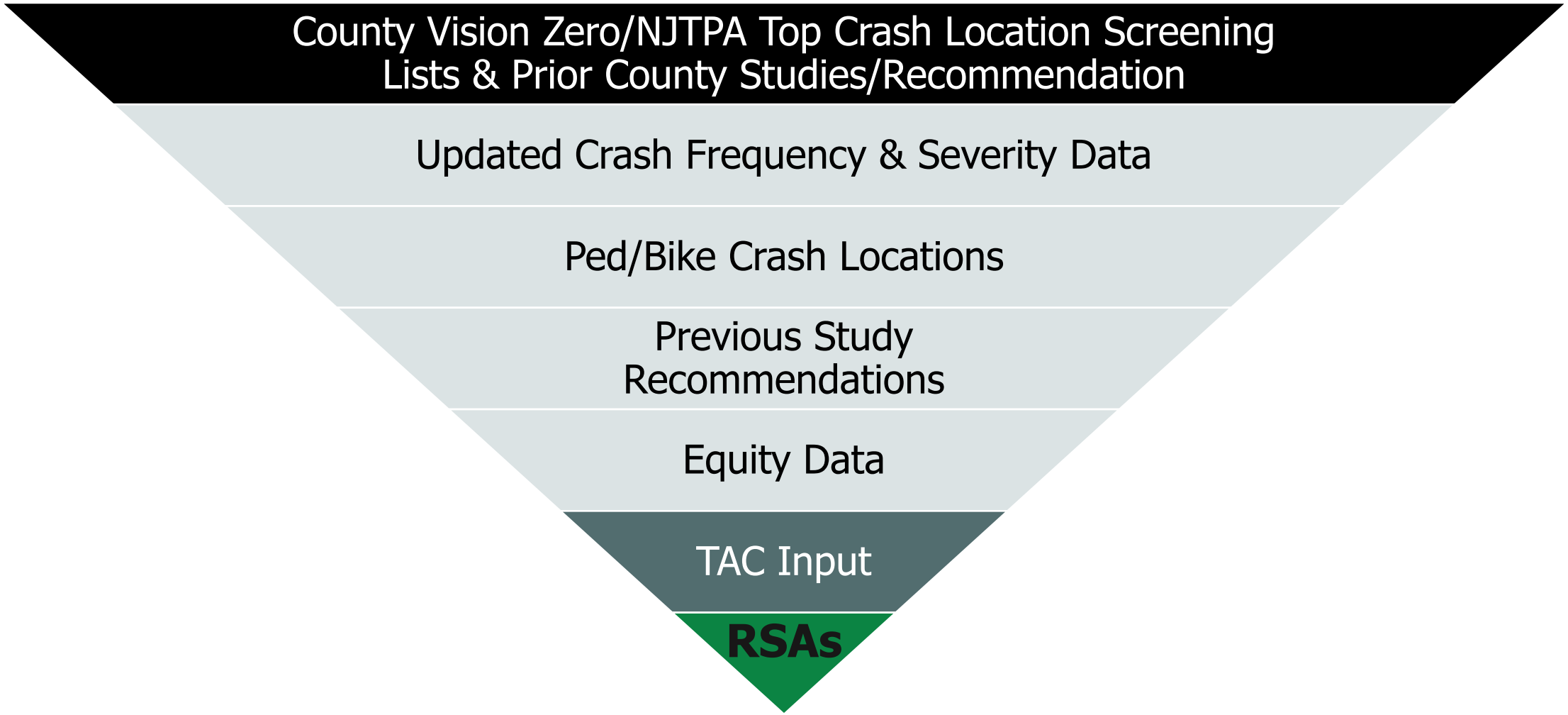
- **Safety performance evaluation by a multidisciplinary team including:**
  - **Law enforcement/EMS responders**
  - **Municipal staff and stakeholders (BOE, DPW, council, mayor, etc.)**
  - **County advocates (Keep Middlesex Moving, County Health/Safety)**
  - **Regional advisors (FHWA, NJDOT, NJTPA, NJ TRANSIT, AARP, New Jersey Bike Walk Coalition, Tri-State Trans. Campaign, etc.)**
  - **County and consultant engineers, planners, and administration**
- **Identifies crash trends/causes**
- **Proposes targeted safety improvements (policy, infrastructure, behavior, education)**

Role of Local Officials

- **Participate in 2 Local Officials Meetings:**
  - **One (1) prior to the RSA site visit to gather information important to successfully conducting the RSA, as well as discussing RSA logistics and potential participants - TODAY**
  - **One (1) after the RSA site visit to review findings and draft recommendations and discuss logistics for a public meeting – JANUARY 2025**
- **Participate in RSA**
- **Assist in planning Public Meeting**
- **Other roles:**
  - **Technical expertise**
  - **Provision of relevant studies/docs**
  - **Help with publicizing public engagement activities**

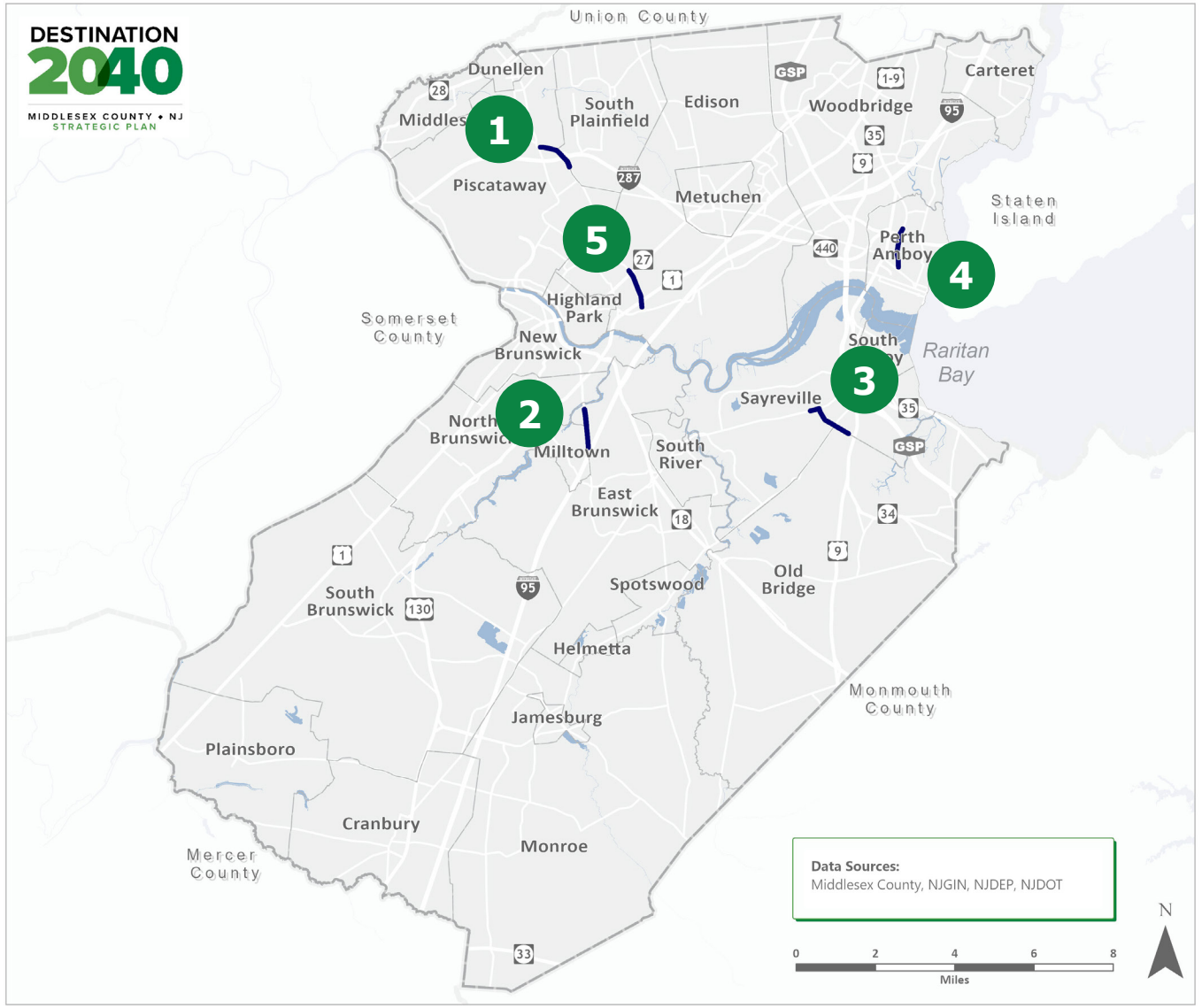


Corridor Selection



County Road Segments Selected for RSA Review

1. **CR 529 - Stelton Rd in Piscataway/South Plainfield**
2. **CR 617 - Ryders Ln in Milltown/East Brunswick**
3. **CR 673 - Ernston Rd in Sayreville/Old Bridge**
4. **CR 653 - Amboy Ave in Perth Amboy**
5. **CR 529 - Plainfield Ave in Edison**



Map 1: Road Safety Audit (RSA) Corridors

MIDDLESEX COUNTY • NJ

Middlesex County Road Safety Audits, 2024



Legend

- RSA Corridors
- Middlesex County
- Municipalities of Middlesex County
- Water Bodies

Prepared: *September 20, 2024*
By: *Middlesex County Office of Planning*

529 Plainfield Avenue

Edison Township

NJDOT Coordination Required

High Pedestrian and Bicycle Crash Corridor

Corridor previously studied

Crash Trends Observed (2017 through 2021)

- 438 Crashes in Total (0 Fatal/0 SI)
- 10 Ped/Bike Crashes
- 28% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Right Angle (43%)
- Same Direction - Rear End (29%)
- Same Direction - Sideswipe (17%)



529 COUNTY Plainfield Avenue

Edison Township

NJDOT Coordination Required

High Pedestrian and Bicycle Crash Corridor

Corridor previously studied

Crash Trends Observed (2017 through 2021)

- 438 Crashes in Total (0 Fatal/0 SI)
- 10 Ped/Bike Crashes
- 28% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Right Angle (43%)
- Same Direction - Rear End (29%)
- Same Direction - Sideswipe (17%)



Open Discussion

Other than what's been presented, are there any existing studies, traffic counts, etc., for this corridor? What other data should our team be aware of for this corridor?

Open Discussion

Are there any land development applications/approvals or road improvement projects adjacent to this segment of the corridor or nearby?

Open Discussion

What are your traffic safety observations and concerns about the corridor?

Any operational and maintenance safety issues (lighting, drainage, etc.) that we should be aware of?

Immediate Need: Selecting RSA Team Members

1. Select Corridors
2. Assemble RSA Team
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report



Designate RSA Team Members

Who should we contact to participate?

- ✓ **Must haves**
  - ✓ **Public Repr.: Safety Task Force, Advocacy, Neighborhood Association**
  - ✓ **At least one municipal official to report back**
  - ✓ **Law enforcement**
  - ✓ **Engineer/planner**
- **Desired Participants**
  - **EMS responders**
  - **BOE**
  - **DPW**
  - **Councilpersons**
  - **Mayor**
  - **Consultants**
  - **Administrators**

Logistics Plan (subject to change)

- **RSA currently scheduled for Thursday, October 24th, 8-11am**
- **Rain date is Friday, October 25th**
- **Start at Edison Public Library, walk south and back**
- **Corridor 1 mile in length; slightly over 2 miles of walking**
- **Materials available for note taking**
- **Photos and videos are encouraged**

Audit Details

START/END:
Edison Public Library
(Main Library)



Meet/Park Location:
Edison Public Library: Main Library
340 Plainfield Ave, Edison, NJ 08817
~2-mile walk

Edison High School

The corridor is highly walkable, with sidewalks on both sides

N

Audit Form

- Categories: Segments, Intersections, Multi-Modal, and Experiential
- Mark the appropriate column for each question
- Any additional/specific details can be recorded under the "Notes" column

Middlesex County Office of Planning, Plainfield Avenue RSA

Name: _____

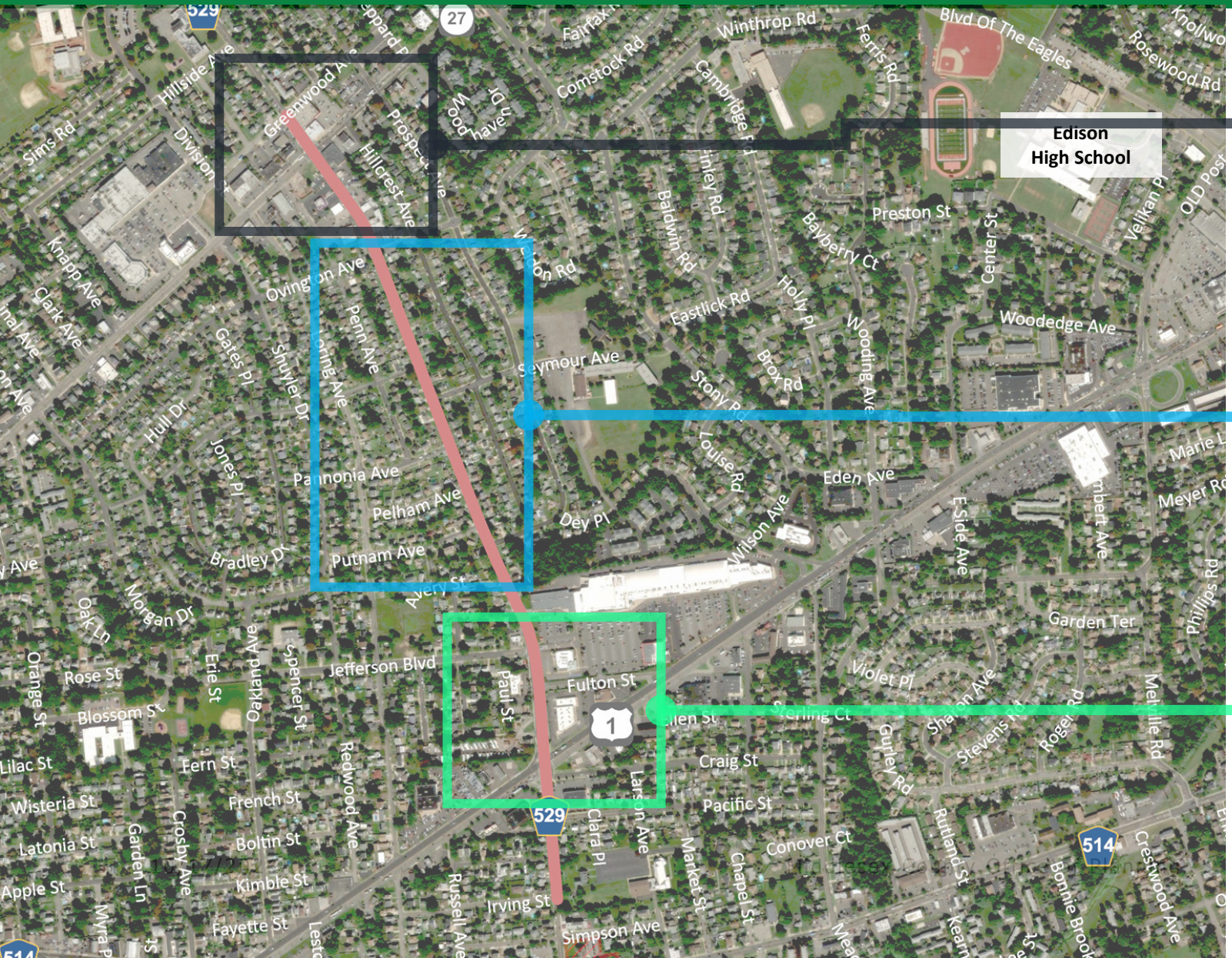
Date: _____

Corridor: _____

	Segments (between intersections)	YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

	Intersections	YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

Audit Considerations – Roadway Characteristics



- Strip mall development
- Route 27 crossing

- Residential with driveways
- Sidewalk on both sides
- Several unmarked crossings of 529

- Auto-oriented commercial retail
- Wider approaches to Route 1
- Long pedestrian crossings at Route 1

What to Look for



Sidewalk Trip Hazards



Sign Visibility Blocked by Trees



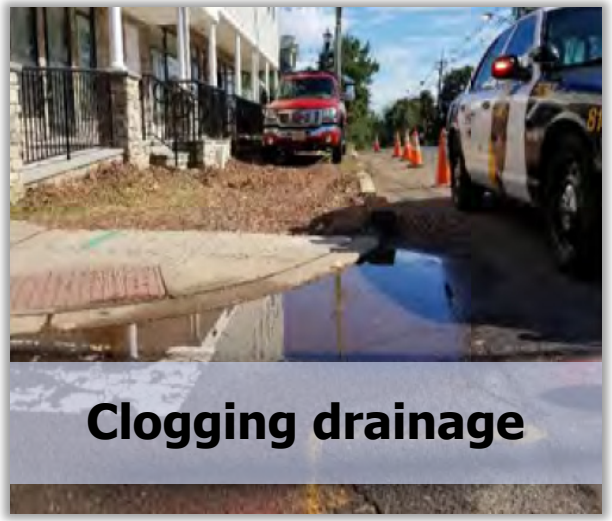
Sidewalk overgrowth (shrubs)



Signal Heads in need of upgrade



Cyclist provisions



Clogging drainage

Middlesex County Office of Planning, Plainfield Avenue RSA

What to Look for



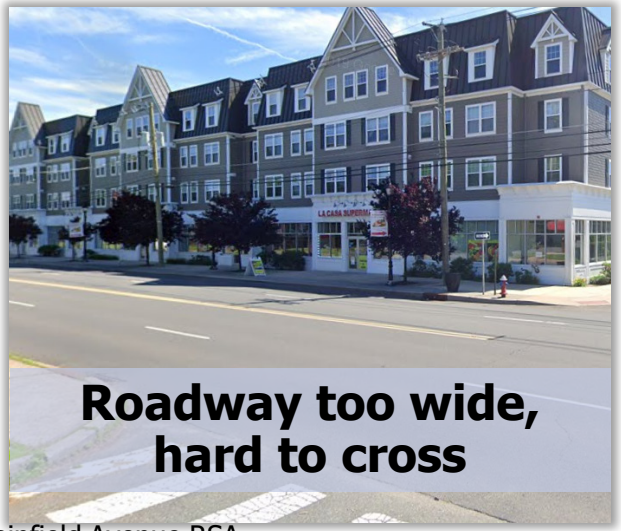
No curb ramp/ crosswalk present



Faded striping/Non-compliant curb ramps



Driveway aprons too wide, lack ADA



Roadway too wide, hard to cross



Traffic calming at curve/intersection

Middlesex County Office of Planning, Plainfield Avenue RSA

What we saw



LACK OF MIDBLOCK CROSSWALKS



TRUCK TRAFFIC



LONG CROSSINGS AT STATE HIGHWAYS



WIDE TRAVEL LANES

Middlesex County Office of Planning, Plainfield Avenue RSA

What we saw



SIDEWALK OBSTRUCTIONS



SIDEWALK CONDITIONS



DRIVEWAY ACCESS



OBSOLETE PED HEADS

What we saw

Greenwood Ave & Plainfield Ave



Middlesex County Office of Planning, Plainfield Avenue RSA

Audit Considerations



COMFORTABLE CLOSED SHOES



WEATHER CONSCIOUS



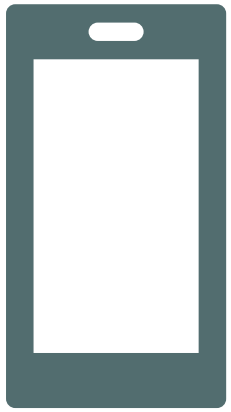
HIGH VISIBILITY VESTS

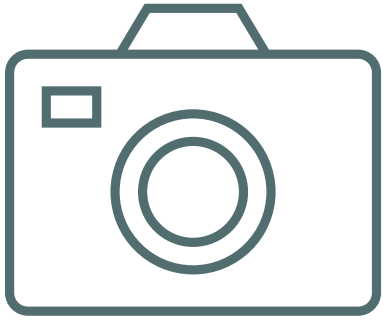
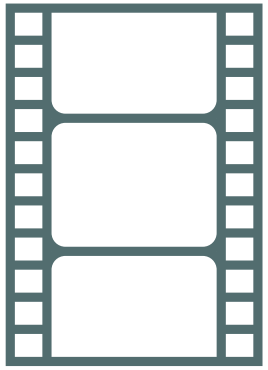


DOCUMENTING MATERIAL

How to Record Observations

- Photograph
- Pen/Pencil Paper
- Video
- Mobile Device
- Mental





How to Stay Involved

- **Help the County designate the RSA team: TODAY**
- **Conduct the RSAs with us: October**
- **Draft RSA Reports become available: December**
- **One lead contact rep. to attend next TAC: February 2025**
- **Public Meeting: Late Winter/Early Spring 2025**

Next Local Officials Meeting in January 2025

Study email contact: andrew.lappitt@co.middlesex.nj.us

MIDDLESEX
COUNTY • NJ
BOARD OF COUNTY COMMISSIONERS

Ronald G. Rios, ***Director***
Shanti Narra, ***Deputy Director***
Claribel A. Azcona-Barber
Charles Kenny
Leslie Koppel
Chanelle Scott McCullum
Charles E. Tomaro

Appendix E

Audit Materials

Name: _____

Date: _____

Corridor: _____

Segments (between intersections)		YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

Intersections		YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

	Multi-Modal	YES	NO	N/A	Notes:
26	Did you observe any bicyclists or scooterists riding along the corridor, including on the sidewalk?				
27	Are signs present to identify bus stops?				
28	Do bus stops have any amenities (shelters, seating)?				
29	Do bus stops have adequate lighting (that you can tell)?				
30	Are the bus stops accessible and free of obstructions?				
31	Are there visible pedestrian crossings near the bus stops (that you can tell)?				

	Experiential	YES	NO	N/A	Notes:
32	Do you feel safe and visible while walking or biking along the corridor?				
33	Do you feel safe and visible crossing the corridor at intersections?				

Appendix F

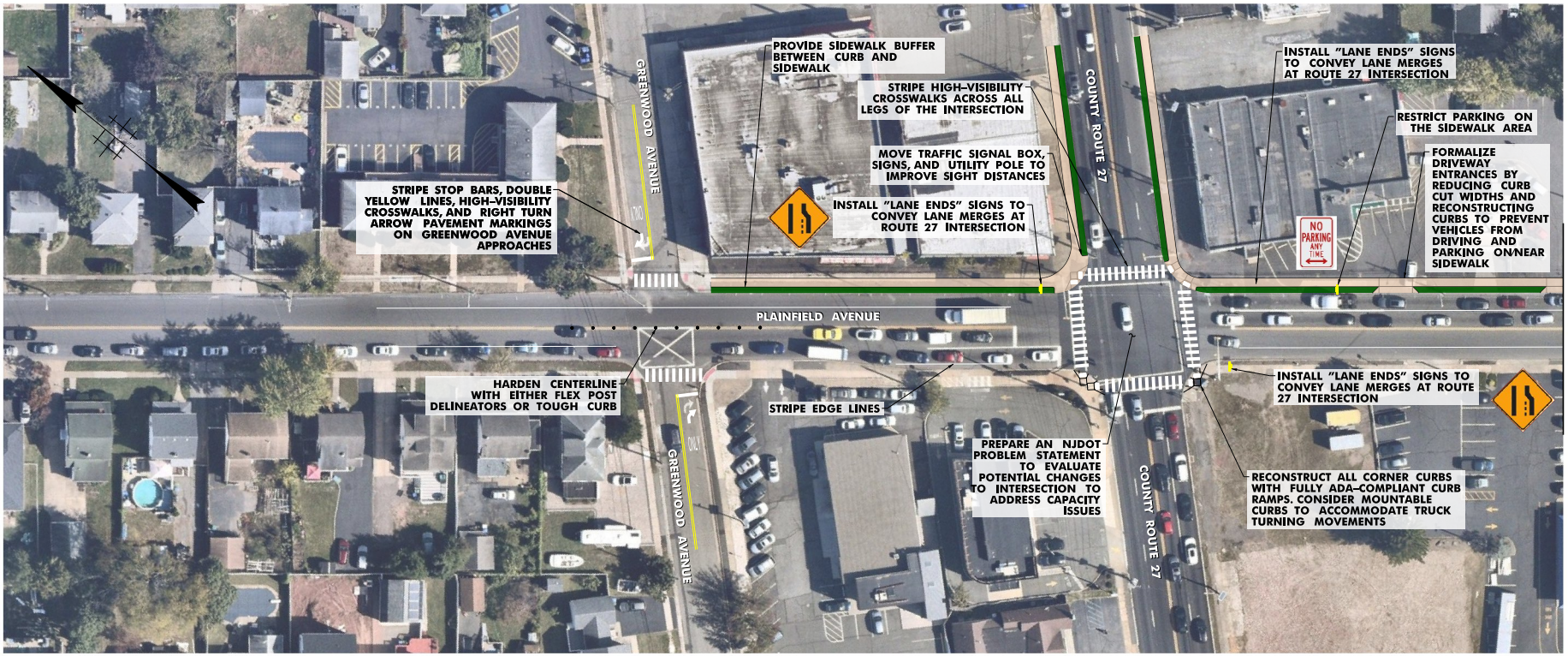
Audit Team

ROAD SAFETY AUDIT TEAM

Name	Organization	Pre-Audit Meeting	RSA
Sonia Alves-Viveiros	Edison Township	X	X
Hank Bignell	Edison Township	X	X
Brian Piccirillo	Edison Township		X
Doug Turner	Edison Township PD		X
Mike Winters	Edison Township PD	X	X
Edie Prescod	AARP		X
Larry Sun	AARP		X
Val D'Aloia	Middlesex County		X
Michael Dannemiller	Middlesex County	X	
Andrew Lappitt	Middlesex County	X	X
Julio Mora	Middlesex County		X
Ashta Negi	Middlesex County		X
Lynne Cuevas	KMM		X
Christopher Gonda	KMM		X
Arlene Holt	KMM		X
Andy Kaplan	NJTPA	X	X
Patricia Newton	NJTPA		X
Nick Chiavoni	NJDOT		X
Marjoly De Leon	MBI		X
Anthony Durante	MBI	X	X
Zach Cyrelson	Stantec		X
Kati DiRaimondo	Stantec		X
Matthew Maher	Stantec	X	
Courtenay Mercer	MPA	X	

Appendix G

Conceptual Plan



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

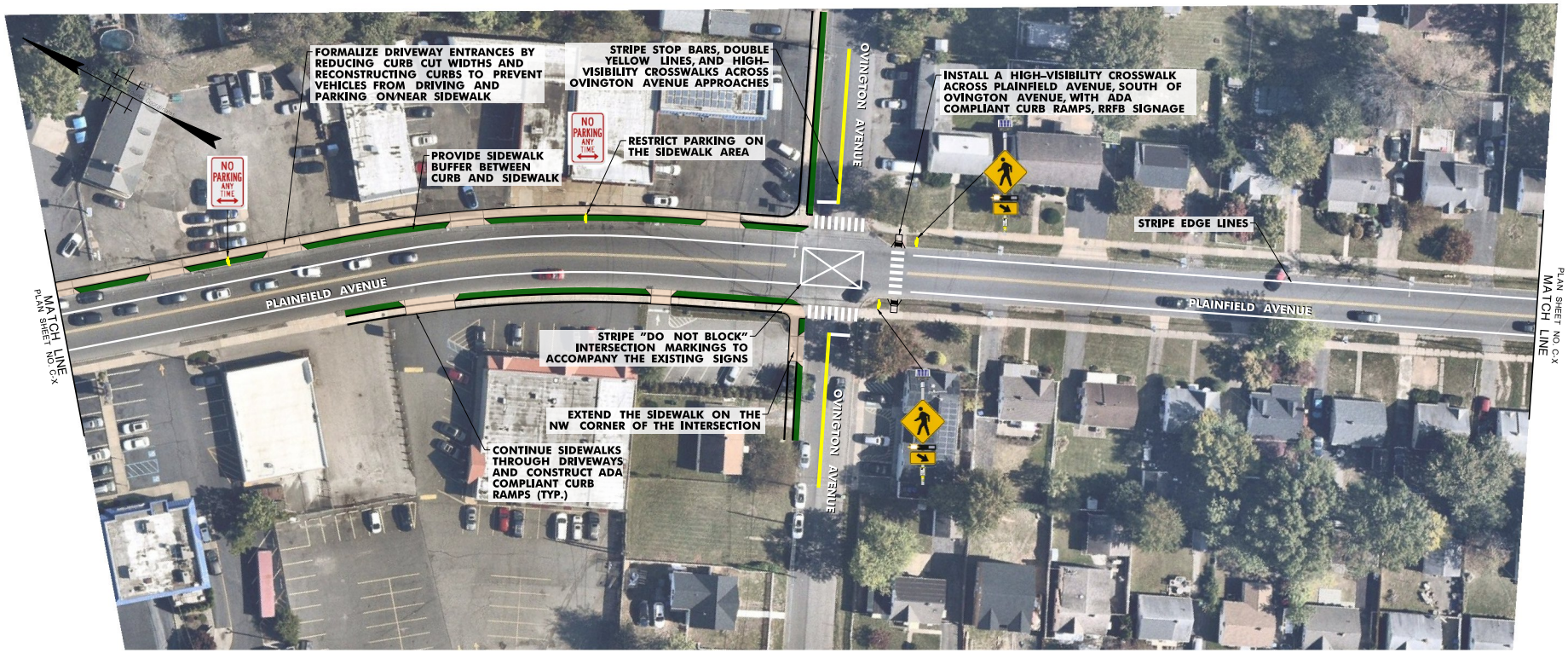
PLAINFIELD AVENUE (CR 529)

From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

PLAINFIELD AVENUE (CR 529)
From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

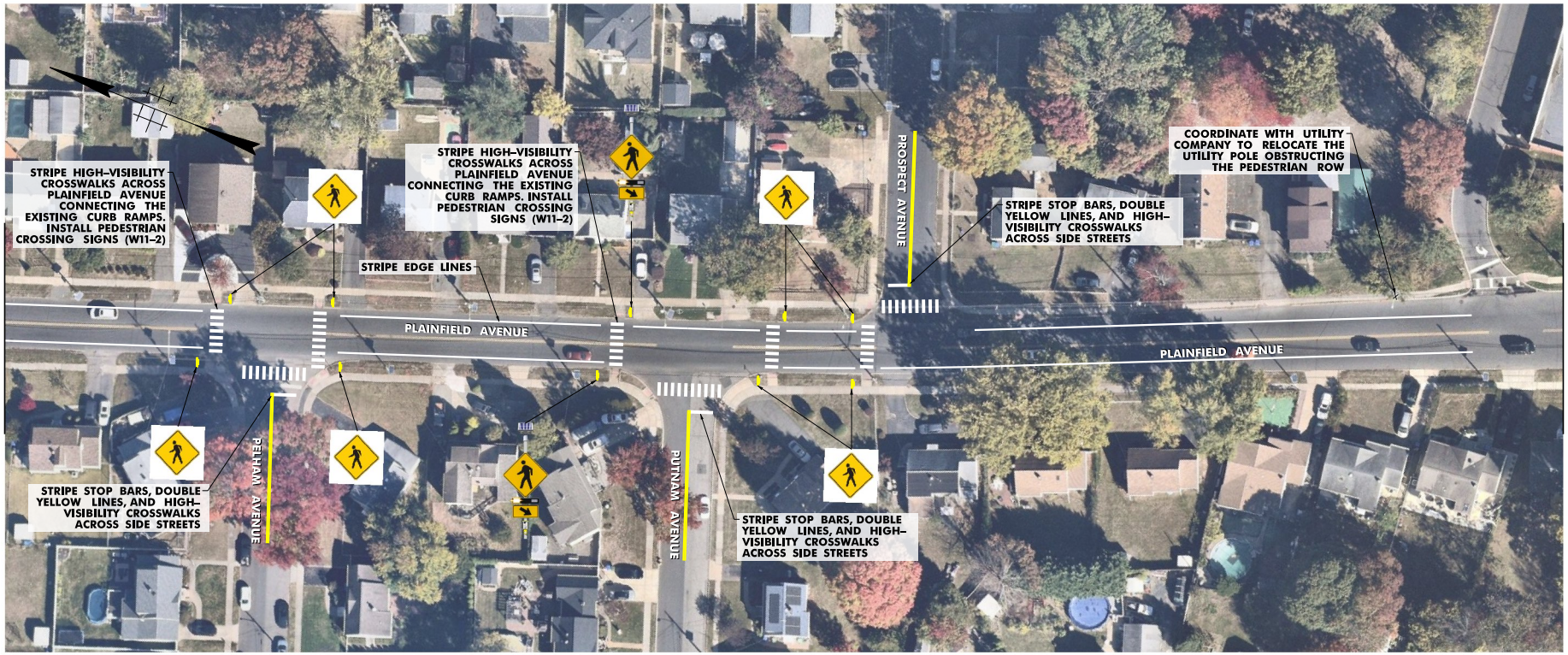
PLAINFIELD AVENUE (CR 529)

From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

PLAINFIELD AVENUE (CR 529)
From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

JEFFERSON BLVD INTERSECTION RECOMMENDATIONS:

1. REPLACE SIGNAL HEADS WITH NEW 12" LED LENSES AND RETROREFLECTIVE BACKPLATES.
2. UPGRADE PEDESTRIAN SIGNAL HEADS AND PUSHBUTTONS.
3. IMPROVE DRAINAGE ISSUES AT INTERSECTION.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

PLAINFIELD AVENUE (CR 529)
From Greenwood Avenue to Irving Street

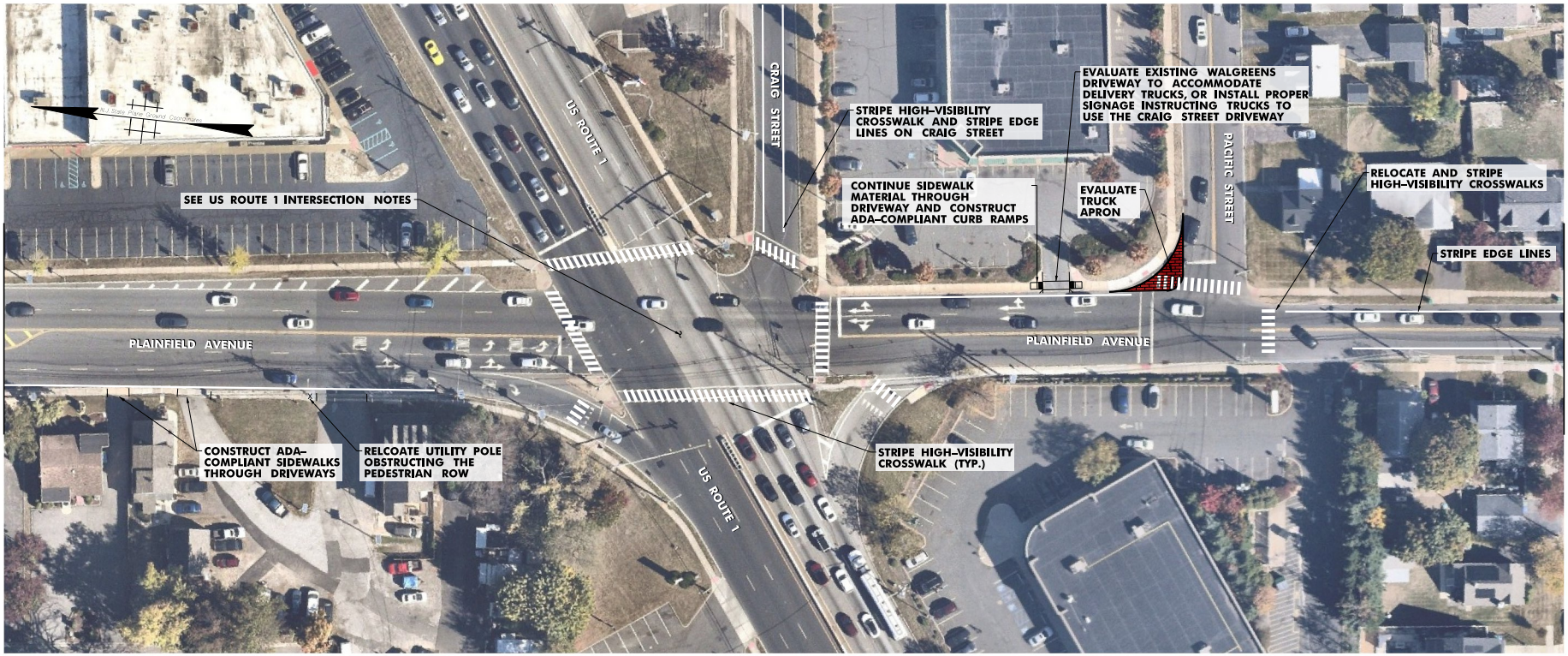
MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

EDISON

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

US ROUTE 1 INTERSECTION RECOMMENDATIONS:

1. WORK WITH NJDOT TO INVESTIGATE IMPLEMENTING LEADING PEDESTRIAN INTERVALS.
2. INCREASE THE PEDESTRIAN CROSSING TIME, WHEN ACTIVATED.
3. CONSIDER INCREASING PEDESTRIAN CROSSING TIME TO ALLOW A COMPLETE PEDESTRIAN CROSSING OF ROUTE 1 AND CRAIG STREET IN ONE CYCLE.
4. WORK WITH NJDOT TO CREATE A PROBLEM STATEMENT TO EVALUATE FEASIBILITY OF CONSTRUCTION A NEW ROUTE 1 SOUTHBOUND OFF-RAMP, ALONG WITH INSTALLING A PEDESTRIAN REFUGE ISLAND.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

PLAINFIELD AVENUE (CR 529)

From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT AN ACCESS MANAGEMENT ANALYSIS FOR THE CORRIDOR.
4. INVESTIGATE INSTALLING BIKE LANES ALONG PLAINFIELD AVENUE.
5. PERFORM REGULAR MAINTENANCE TO CLEAR DEBRIS FROM SIDEWALKS AND CURB RAMPS.
6. PROVIDE SIDEWALK BUFFER BETWEEN CURB AND SIDEWALK.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG PLAINFIELD AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

PLAINFIELD AVENUE (CR 529)

From Greenwood Avenue to Irving Street

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

Middlesex County

Road Safety Audit Report



Ernston Road (CR 673) & Washington Road (CR 535) Sayreville & Old Bridge

From Ernston Road, East of Samsel Upper Elementary School, to Washington Road (MP 0.00 to 1.00) & Washington Road, From Entrance to Sayreville War Memorial High School to Ernston Road (MP 30.27 to 30.50)

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY • NJ

April 2025

TABLE OF CONTENTS

Executive Summary ..... **iv**

1 INTRODUCTION **1**

1.1 Project Need 1
1.2 Site Selection 2
1.3 What is a Road Safety Audit (RSA)? 4

2 EXISTING CONDITIONS **5**

2.1 Study Location 5
2.2 Land Use 5
2.3 Community Profile 7
2.4 Roadway Characteristics 9
2.5 Traffic Volumes 9
2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations 9
2.7 Transit Service 10
2.8 Stakeholders 10
2.9 Outreach Efforts 10

3 CRASH FINDINGS **12**

3.1 Crash Types 12
3.2 Crash Severity 14
3.3 Temporal Trends 14
3.4 Roadway Surface & Lighting Conditions 16
3.5 Near Miss Analysis 17
3.6 Crash and Near Miss Data Finding Summary 18

4 RSA LOGISTICS **19**

4.1 Audit Schedule 19
4.2 Audit Participants 19

5 IDENTIFIED ISSUES & OBSERVATIONS **20**

5.1 Corridor-wide 20
5.2 Location-specific 24

6 FINDINGS & RECOMMENDATIONS **28**

6.1 Implementation Matrix (Recommendations) 28
6.2 Potential Funding Sources 36
6.3 Conceptual Plan 39

7 CONCLUSION **40**

LIST OF TABLES

Table 1. Equity Analysis Factors for Old Bridge, Sayreville, and Middlesex County. 7
Table 2. Ernston Road (CR 673) and Washington Road (CR 535) top overrepresented and reported crash types. 13
Table 3. Ernston Road (CR 673) and Washington Road (535) crashes by severity. 14
Table 4. Ernston Road (CR 673) and Washington Road (CR 535) crashes by roadway surface conditions. 16
Table 5. Ernston Road (CR 673) and Washington Road (CR 535) crashes by light conditions. 16
Table 6. Ernston Road (CR 673) and Washington Road (CR 535) intersection near misses by mode and PET. 17
Table 7. Implementation Matrix Legend 28
Table 8. Ernston and Washington Road recommendations. 29

LIST OF FIGURES

Figure 1. Study area land use map. iv
Figure 2. Map of RSA corridors. 3
Figure 3. Eight-Step RSA Process, adapted from the FHWA. 4
Figure 4. Ernston Road and Washington Road corridor land use map. 6
Figure 5. Ernston Road and Washington Road equity analysis map. 8
Figure 6. Ernston Road (CR 673) and Washington Road (CR 535) crashes by type. 13
Figure 7. Ernston Road (CR 673) and Washington Road (CR 535) crashes by month of the year. 14
Figure 8. Ernston Road (CR 673) and Washington Road (CR 535) crashes by day of week. 15
Figure 9. Ernston Road (CR 673) and Washington Road (CR 535) crashes by time of day. 15
Figure 10. Ernston Road (CR 673) and Washington Road (CR 535) crashes by time of day. 15
Figure 11. Ernston Road (CR 673) and Washington Road (CR 535) near miss example. 17

APPENDICES

Appendix A – Straight Line Diagram
Appendix B – Traffic Data
Appendix C – Crash Diagram
Appendix D – Local Officials, Pre-Audit Meeting Presentation
Appendix E – Audit Materials
Appendix F – Audit Team
Appendix G – Conceptual Plan

EXECUTIVE SUMMARY

The Middlesex County Road Safety Audits (RSAs) were conducted on five one-mile-long County roadway corridors throughout the month of October 2024, advancing the County's Vision Zero Action Plan goal to address and reduce serious injuries and fatalities. The study was funded through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), which assists subregions in refining and developing transportation improvement strategies consistent with the Long Range Transportation Plan (LRTP) and regional planning goals.

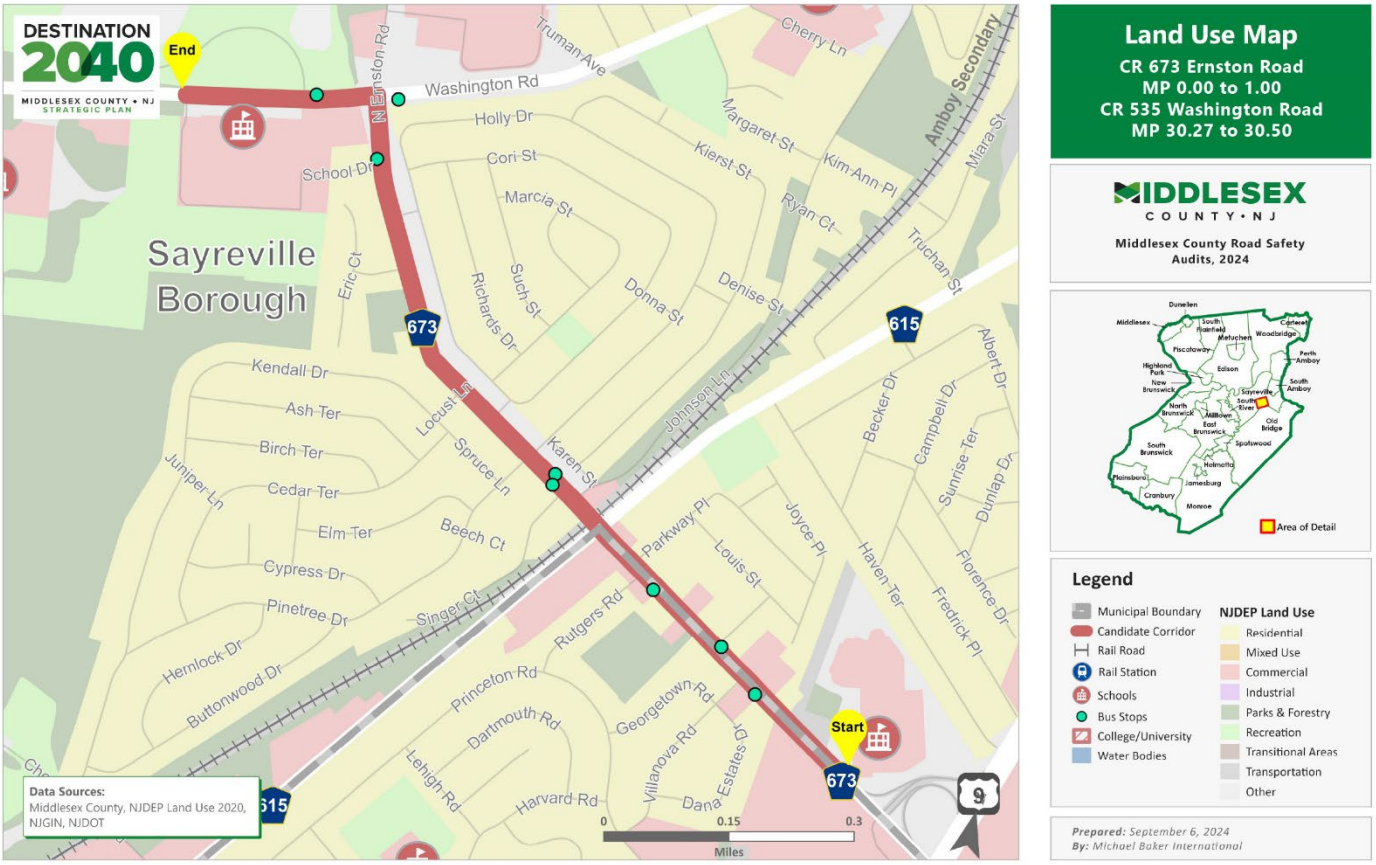


Figure 1. Study area land use map.

The five corridors were selected using several factors, including crash data analysis, equity factors, and prior studies. The audits followed the Federal Highway Administration's (FHWA) RSA process, identifying opportunities for safety improvements for all road users. Ernston Road (County Route 673) and Washington Road (County Route 535) in Old Bridge and Sayreville were one of the five corridors selected for the audits. The corridor extends from Washington Road near the Sayreville War Memorial High School (MP 30.27-30.50), continuing along Ernston Road

from the Washington Road intersection to just east of the Samsel Upper Elementary School (MP 0.00-1.00).
The Ernston Road and Washington Road pre-audit briefing took place at the Local Officials Meeting via Microsoft Teams on Wednesday, October 2nd, 2024. The field visit and post-audit debrief were conducted on Monday, October 21st, 2024. Participants included Middlesex County staff, the consultant team, municipal staff, and representatives from the NJTPA, Keep Middlesex Moving (KMM) Transportation Management Association (TMA), and the AARP. Participants were given an RSA prompt list to help the team identify and document potential safety issues and to facilitate discussion of safety concerns and potential improvements. Following the in-person field audit, the team convened at the Sayreville Public Library to discuss and record observations.

The recommendations in this memo (Section 6 - Findings & Recommendations) are based on existing conditions analysis, field observations, post-audit discussion, and County staff comments. Recommendations include:

- Conducting a lighting analysis to identify specific locations in need of lighting upgrades;
- Striping edge lines corridor-wide to define and narrow travel lanes and reduce speeds;
- Considering Rectangular Rapid Flashing Beacons (RRFBs) at the crosswalk between the entrances of Kennedy Park and Sayreville War Memorial High School;
- Performing an intersection study at Ernston Road and Bordentown Avenue that looks at existing volumes, geometry, lane configurations, signal improvements, drainage, and striping; and
- In conjunction with a road diet, evaluate the feasibility of installing a pedestrian refuge island with a high-visibility crosswalk and an RRFB adjacent to the Samsel Upper Elementary School driveway.

The recommendations in this report are a starting point in reimagining a safer corridor, reflecting the ideas and suggestions of the RSA team, and should be developed further. Roadway recommendations should be evaluated and designed for the roadway context by Middlesex County or the appropriate jurisdiction according to applicable codes, standards, and best practices. Recommendations for education or enforcement strategies will need to be developed further by appropriate entities.

1 INTRODUCTION

Through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), Middlesex County conducted Road Safety Audits (RSAs) on five one-mile-long roadway corridors throughout the County, identifying potential safety issues for all road users and outlining strategies to mitigate crash occurrence and severity. RSAs are in alignment with the County's Vision Zero Action Plan initiative. The process followed the Federal Highway Administration's (FHWA) framework for RSAs. One of the corridors selected for the RSA was County Route 673, Ernston Road (MP 0.0-1.0), and County Route 535, Washington Road (MP 30.27-30.50), in Old Bridge and Sayreville.

This RSA report provides background information on the corridor, including the basis for corridor selection and other pertinent data such as surrounding context and land uses, multimodal inventory, crash data, crash analysis, summaries of the pre- and post-audit meetings, and key issues identified during the audit. The in-person field audit observations and the corridor data findings were used to generate a series of safety recommendations. Recommendations are presented in this report within an implementation matrix, which consists of estimated implementation timeframes, responsible agency/agencies, order of magnitude implementation costs, implementation priority, and available funding sources.

The RSA report also includes a conceptual "sketch" or "planning-level" plan showing the recommended physical design elements for the corridor. The plan illustrates potential future conditions for Ernston Road and Washington Road based on the RSA recommendations. Please note that implementing the recommendations outlined in this report requires professional engineering services to prepare the applicable design and construction documents.

1.1 Project Need

In 2022, Middlesex County adopted the Vision Zero Action Plan to reduce fatal and serious injury crashes on County roads. The Plan uses the Safe System framework, proposing actions that support each of the Safe System objectives: safer people, safer roads, safer vehicles, safer speeds, and post-crash care. Road safety audits are an action item in the Safe Roads category of the Action Plan's projects and strategies.

Two previous RSAs in Middlesex County— Livingston Avenue and the New Brunswick Train Station— have resulted in significant safety improvements in the City of New Brunswick, including a road diet and redesign of Livingston Avenue. Similarly, the County's goal is to conduct these additional five RSAs on County roadways to identify safety recommendations in pursuit of the County's Vision Zero pledge to eliminate traffic fatalities and serious injuries within the County by 2040.

1.2 Site Selection

County Route 673, Ernston Road, and County Route 535, Washington Road corridor was selected from a list of twenty candidate corridors through a comprehensive analysis of the top crash segments for the County from NJTPA's Network Screening Lists, utilizing crash data, prior studies, and equity data as a basis for comparison and selection. The twenty candidate corridors were then narrowed to ten locations, eliminating the corridors with recent construction work, currently undergoing a study or design project. Finally, the five RSA locations were picked based on input from the Technical Advisory Committee (TAC) and discussions with the County's Department of Transportation, consisting of the Offices of Engineering and Planning. The following corridors, shown in **Figure 2**, were selected for the RSA study:

1. Stelton Road (CR 529), MP 4.17-5.17, in Piscataway and South Plainfield
2. Plainfield Avenue (CR 529), MP 0.10-1.10, in Edison
3. Amboy Avenue (CR 653), MP 0.08-1.08, in Perth Amboy
4. Ryders Lane (CR 617), MP 4.90-5.90, in Milltown and East Brunswick
5. **Ernston Road (CR 673), MP 0.00-1.00, and Washington Road (CR 535), MP 30.27-30.50, in Sayreville and Old Bridge**

Ernston Road and Washington Road were selected because Ernston Road is a high crash frequency and severity corridor, and both roads were a part of prior planning studies. On NJTPA's 2023 Screening Lists, Ernston Road ranks 8th on the Middlesex County Roadway Corridors List. Washington Road, from MP 29.50 to 30.50, ranks 12th on the Middlesex County Roadway Corridors List, which includes the segment of the road within the study area.

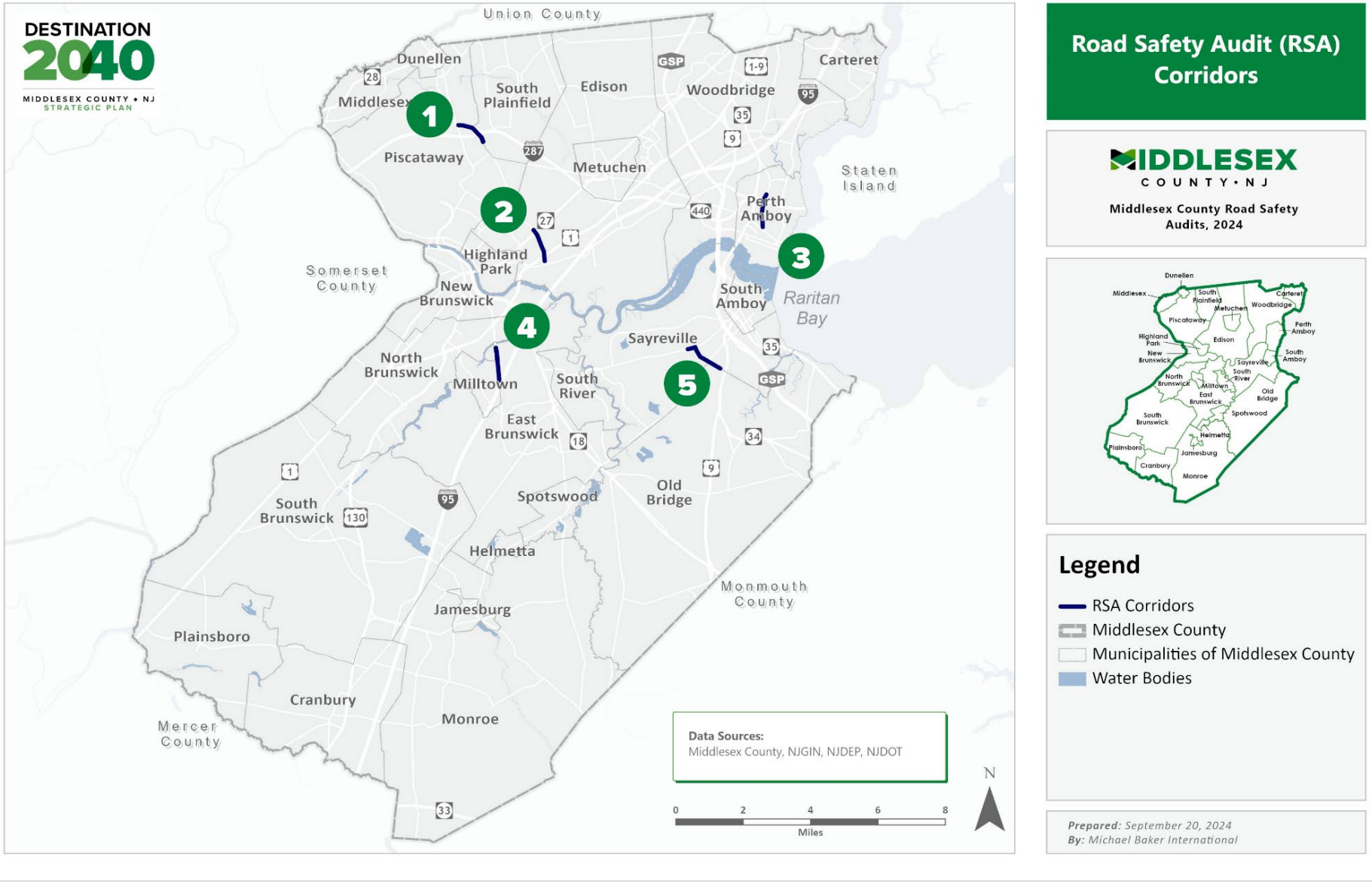


Figure 2. Map of RSA corridors.

1.3 What is a Road Safety Audit (RSA)?

FHWA defines an RSA as the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for safety improvements for all road users.

The independent multidisciplinary team may include professionals from various disciplines, including engineering, planning, emergency services, law enforcement, public works, and advocacy staff.

RSAs are one of the FHWA's Proven Safety Countermeasures[1] (PSC), which include strategies deployed to reduce roadway fatalities and serious injuries. The RSA process has been demonstrated to result in a 10 to 60 percent reduction in total crashes for the audit location, due to safety recommendations and implementation of safer designs. See **Figure 3.** Eight-Step RSA Process, adapted from the FHWA. for the eight steps for conducting an RSA.



Figure 3. Eight-Step RSA Process, adapted from the FHWA.

RSAs consider all road users by assessing existing and potential safety concerns on the corridor or intersection for all modes of transportation. The RSA process then recommends strategies to eliminate or mitigate the identified safety concerns. RSAs can be performed at any stage of a project - from planning to construction - although they are encouraged early in the process to allow for ample opportunities to incorporate recommendations into conceptual designs. RSAs produce a formal report that requires a formal response from the road owner.

[1] https://highways.dot.gov/safety/data-analysis-tools/rsa/road-safety-audits-rsa, accessed December 4, 2024

2 EXISTING CONDITIONS

2.1 Study Location

The Ernston Road (CR 673) and Washington Road (CR 535) study area is a 1.23-mile-long corridor beginning on Washington Road from Sayreville War Memorial High School (MP 30.27) to the Ernston Road intersection (MP 30.50), where it continues onto Ernston Road, extending to the Samsel Upper Elementary School (MP 1.0). The corridor traverses through both Sayreville and the northern border of Old Bridge Township. A Straight-Line Diagram (SLD) of Ernston Road and Washington Road is provided in **Appendix A**. The corridor terminates on Ernston Road just before Route 9 and is about one mile south of the Garden State Parkway and two miles west of Route 35.

2.2 Land Use

Land uses along the Ernston and Washington Road corridor are primarily residential and suburban, lined with single-family homes and some commercial businesses (**Figure 4**), including auto-related businesses like service centers and gas stations, and medical services. Two schools are located directly on the corridor – Samsel Upper Elementary School on Ernston Road and Sayreville War Memorial High School on Washington Road. Just west of the Washington Road corridor limits are the Sayreville Public Library and Middle School, generating vehicle and pedestrian trips. Southeast of the study area, there are large retail developments along US Route 9, generating vehicle trips. By the Ernston Road and Washington Road intersection is the Sayreville Kennedy Park, which offers several amenities and is adjacent to another large commercial development on Ernston Road, just north of the study area.

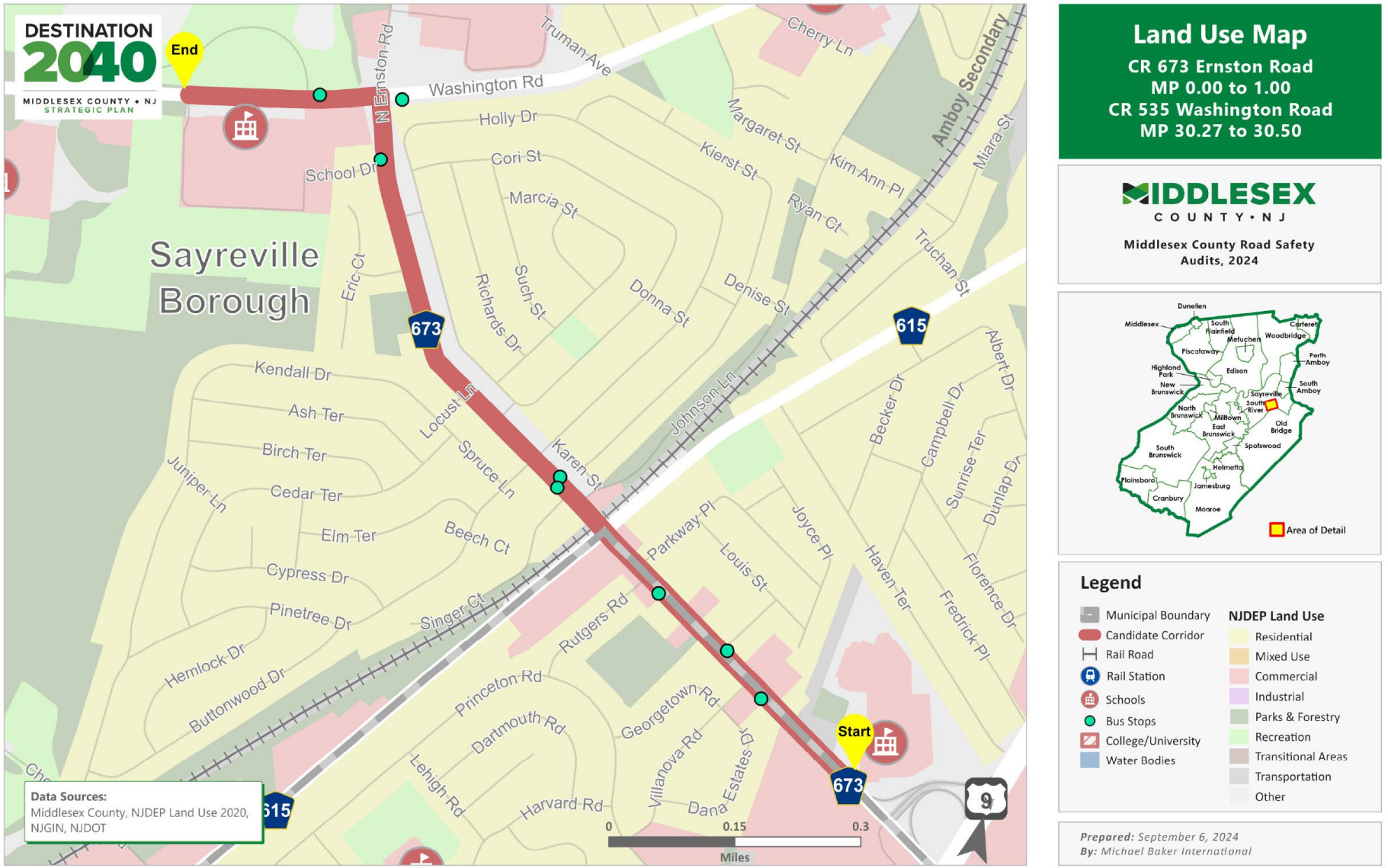


Figure 4. Ernston Road and Washington Road corridor land use map.

2.3 Community Profile

Demographic and socioeconomic data from the American Community Survey (ACS) were used to identify Environmental Justice populations while also providing points of comparison to the County as a whole, based on NJTPA's Equity Analysis methodology. Data from the 2018-2022 ACS was sourced from the U.S. Census for Old Bridge, Sayreville, and Middlesex County. The summary data from nine equity analysis factors is listed in **Table 1**, with percentages in bold denoting the equity factors where the municipalities had higher rates than Middlesex County as a whole and percentages in light gray indicating the equity factors where the municipalities had lower rates than the County. Old Bridge and Sayreville had lower or comparable rates to the County in most equity factor categories. Old Bridge has a higher rate of its population that is 65 years and older and that has a disability. The higher rate of disabilities may be partially due to having an older population. Both Old Bridge and Sayreville have lower rates of zero-vehicle households when compared to the County, likely attributed to the more suburban character of both municipalities. Though the study area had lower percentages in most equity factor categories, the higher rates of older adults and those with a disability are a concern for safety and mobility.

Table 1. Equity Analysis Factors for Old Bridge, Sayreville, Middlesex County, and the NJTPA Region. Source: US Census ACS 2018-2022.

	Old Bridge	Sayreville	County	NJTPA Region
Minority	41.6%	52.9%	60%	49.0%
Foreign Born	23.3%	32.7%	34.1%	26.5%
Low Income	16.3%	16.2%	18.7%	21.3%
Limited English Proficiency	11.8%	14.0%	15.7%	13.7%
Age 5 to 17	15.7%	15.5%	16.1%	16.1%
65 Years and Over	**17.1%**	14.6%	15.4%	16.4%
Disability	**11.2%**	9.8%	9.6%	9.8%
Female Population	51.0%	48.9%	50.3%	50.7%
Zero Vehicle Households	5.9%	5.2%	8.1%	12.1%

Using the demographic and socioeconomic data, an overall equity composite score was then calculated for the Ernston and Washington Road corridor (see **Figure 5**) based on NJTPA's Equity Analysis Methodology, with the data displayed across five composite score categories from low to high, ranging from the lowest (Well Below Average) to Average to highest (Well Above Average). The study area census tracts range from "Below Average" to "Average."

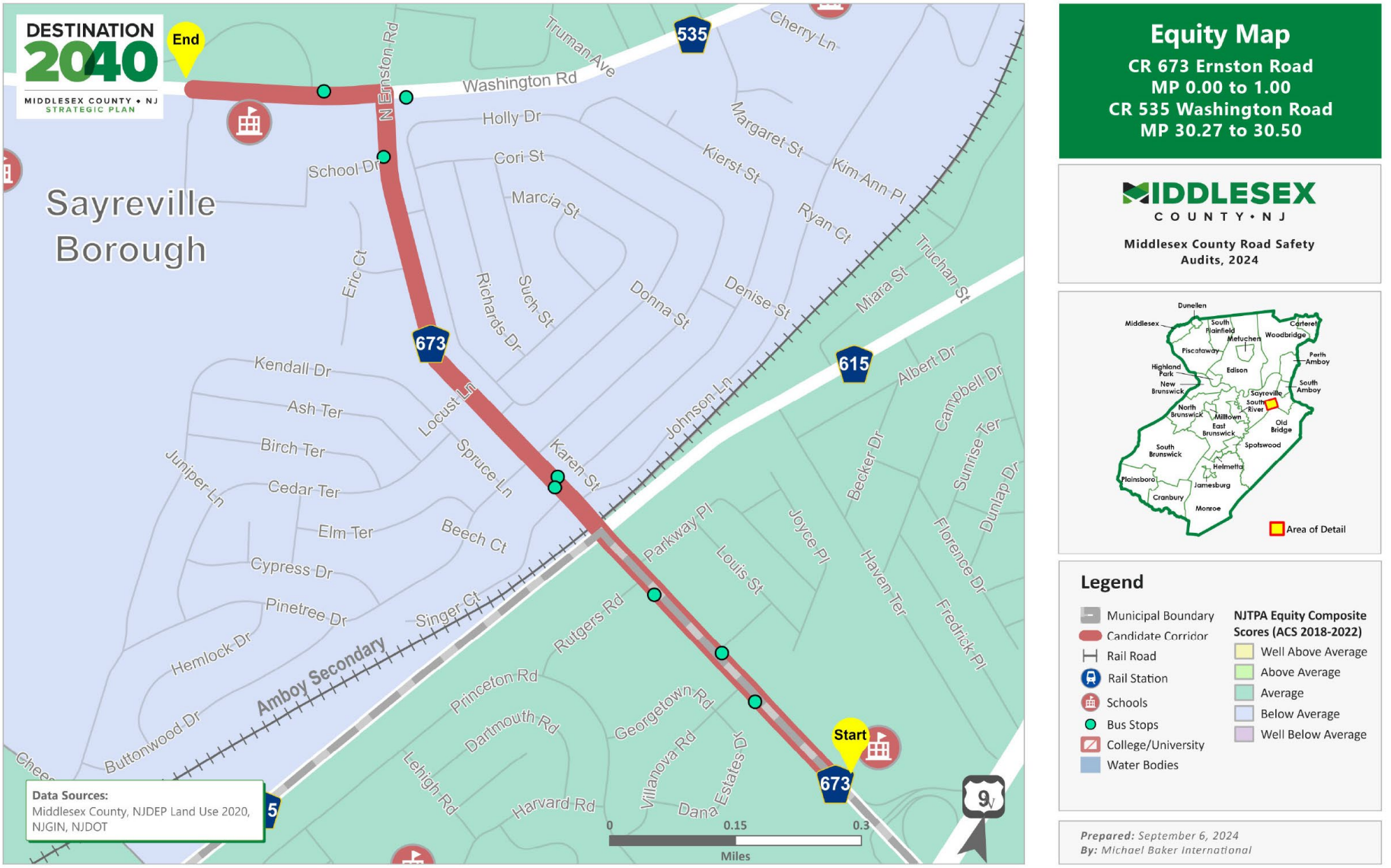


Figure 5. Ernston Road and Washington Road equity analysis map.

2.4 Roadway Characteristics

Ernston Road is an undivided urban minor arterial with two motor vehicle travel lanes from MP 0.00 to 0.86 (from the Washington Road intersection to approximately just east of the Villanova Road intersection) and four lanes from MP 0.86 to 1.00 (east of Villanova Road until the end of the corridor). There is no on-street parking. The posted speed limit is 35 mph. There are two signalized intersections (Washington Road, Bordentown Avenue) and 12 unsignalized intersections with stop control on the minor approaches.

Washington Road is an undivided urban minor arterial with two motor vehicle travel lanes and no on-street parking. The posted speed limit is 40 mph with a school zone speed limit of 25 mph during recess when the presence of children is visible from the roadway or while children are going to or leaving school during opening or closing hours, per the municipal ordinance.[2] High School hours are from 7:30 a.m. to 2:12 p.m. The only signalized intersection is at the Ernston Road intersection, where the corridor continues. There are no unsignalized intersections. There is a marked crossing between the entrance to Sayreville Kennedy Park and the High School.

2.5 Traffic Volumes

Traffic data available from NJDOT showed a traffic count of 18,179 in 2017 on Ernston Road (Station ID 111273) and 17,886 in 2019 on Washington Road (Station ID 4-3-022). Traffic volume data is included in **Appendix B**.

2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations

Ernston Road has a continuous sidewalk network on both sides within the study area limits. From the Ernston Road intersection to the entrance of Kennedy Park, Washington Road has sidewalks on both sides. West of the Park entrance, the road has sidewalks only on the eastbound side.

There are no existing dedicated bicyclist accommodations on either Ernston or Washington Road. When using the NJTPA's Level of Bicycle Compatibility (LBC) analysis, which rates the roadway network on a scale from one to five, indicating the traffic stress it imposes on bicyclists, Ernston Road has an LBC score of three from the Washington Road intersection to Villanova Road where the roadway widens to four lanes and has a LBC score of four. A road with an LBC score of three is typically for the confident adult cyclist and is characterized as a principal arterial road with a pavement width greater than 30 feet. A road with an LBC score of four is only for very skilled cyclists and is generally characterized by six or more lanes, or at least

[2] https://library.municode.com/nj/sayreville_borough/codes/code_of_ordinances?nodeId=CHVIITR

four lanes with no shoulder, and speed limits greater than 35 mph. Washington Road has an LBC score of four. High traffic volumes, turning movements, travel speeds, and heavy truck traffic are a concern, especially for pedestrians, cyclists, and vulnerable road users (VRUs).

2.7 Transit Service

Ernston Road is served by NJ TRANSIT bus route 131, with service to the Freehold Center and the Port Authority Bus Terminal (PABT). Weekday buses to the PABT run during peak a.m. hours, between 5:30 and 8:30 a.m., with five buses scheduled at the 7:00 a.m. hour. Weekday buses to the Freehold Center operate during peak p.m. hours, between 3:30 and 8:30 p.m. The Middlesex County M7 bus route runs briefly on Ernston Road from east of Route 9 to Villanova Road.

NJ TRANSIT bus route 815 makes stops along Washington Road, including across the Sayreville War Memorial High School. It also makes stops in New Brunswick, East Brunswick, South Amboy, Perth Amboy, and Woodbridge.

2.8 Stakeholders

The RSA team worked in collaboration with a Technical Advisory Committee (TAC) and local officials. The TAC served as a technical resource to the project team, providing necessary background documentation and insights about existing conditions. Members of the TAC included county, regional, and state governmental staff, and members of community-based organizations. Similarly, the project team met with municipal representatives of each selected corridor prior to the RSAs for their insights on the existing conditions, including observed or known issues and potential opportunities for each corridor.

2.9 Outreach Efforts

The RSA outreach efforts were launched with a Public Engagement Plan (PEP), outlining key project team members and strategies implemented to engage the local community, neighborhood groups, stakeholders, and local officials. The goal is to reach a wide range of audiences, including members of the public who have traditionally been underrepresented, to have an opportunity to understand the purpose and goals of the RSAs and provide input during the process.

Public outreach will consist of in-person engagement events and digital communications, including a project website and social media posts. The project website (http://www.middlesexcountynj.gov/roadsafety) contains the most up-to-date content, such as project background, opportunities to participate in the process, current study status,

milestones, and draft and final reports. Social media posts will provide pertinent information in a more widespread format and link to the project website to drive additional feedback.

Anticipated engagement events include three TAC meetings and 10 local officials meetings, two for each of the chosen corridors. The first set of local officials meetings was conducted before the RSAs with each municipality. Public meetings will be held for each corridor for local community members and stakeholders. These meetings will be structured in an “open house” style format, allowing participants to engage more informally with project team members and providing opportunities for in-depth responses to questions.

3 CRASH FINDINGS

The following sections summarize key crash findings for the Ernston Road (CR 673) and Washington Road (CR 535) corridors. Crash data was obtained from NJDOT's Safety Voyager and Numetric for a five-year period, from the beginning of January 2019 to the end of December 2023, for pedestrian and bicycle crashes, and a three-year period, from the beginning of January 2021 to the end of December 2023, for motor vehicle crashes. Crash reports were requested from the Borough of Sayreville and Township of Old Bridge for the case (incident) numbers listed in the combined dataset, as well as any additional crash reports in the study area that the municipality held. The crash narrative and diagram included in the NJ-TR-1 form, as completed by the on-scene law enforcement, provided detailed accounts of the incident.

During the study period, there were 303 reported crashes within the study area. Crashes are summarized by type, severity, temporal factors, and roadway surface and lighting conditions, and compared to countywide crash data. The following safety issues were identified based on overrepresented crash characteristics when compared to countywide crash data:

- Same direction – rear end crashes;
- Left turn/U turn crashes;
- Right angle crashes;
- Encroachment crashes; and
- Crashes occurring from 7 to 8 am, 1 to 4 pm, and 6 to 8 pm.

A near-miss analysis was also performed at the Ernston Road and Washington Road intersection to help better understand the existing conflicts and patterns at the intersection with the highest number of crashes within the study area. A crash diagram and summary table can be found in Appendix C. For more detailed crash information, including data analysis methodology, please see the Ernston Road and Washington Road Existing Conditions Report.

3.1 Crash Types

The most prevalent crash types on Ernston and Washington Road were Same Direction – Rear End (47.2 percent), Right Angle (20.8 percent), and Same Direction – Sideswipe (11.9 percent). See **Figure 6** for a full list of crash types.

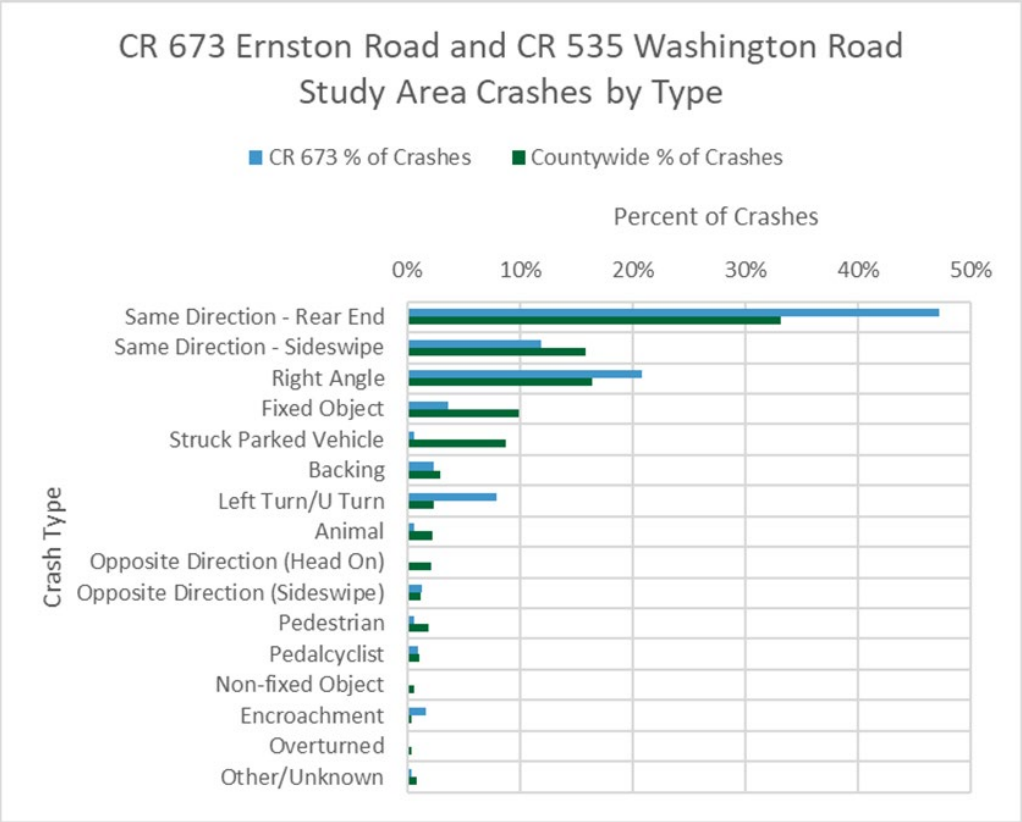


Figure 6. Ernston Road (CR 673) and Washington Road (CR 535) crashes by type.

Same direction – rear end crashes are significantly overrepresented in the study area. Additionally, left turn/U turn, right angle, and encroachment crashes are also overrepresented. See **Table 2** for the top overrepresented and reported crash types.

Table 2. Ernston Road (CR 673) and Washington Road (CR 535) top overrepresented and reported crash types.

Crash Type	Overrepresented Crash Rank	Observed Crash Rank	Percent of Crashes on CR 673 and CR 535	Percent of Crashes Countywide	Percent Overrepresentation
Same Direction - Rear End	Highest	Highest	47.2%	33.1%	14.0%
Left Turn/U Turn	Second Highest	Not Ranked	7.9%	2.3%	5.6%
Right Angle	Third Highest	Second Highest	20.8%	16.4%	4.4%
Encroachment	Fourth Highest	Not Ranked	1.7%	0.4%	1.3%
Same Direction - Sideswipe	Not Ranked	Third Highest	11.9%	15.8%	-4.0%

Left Turn/U Turn, Right Angle, and Encroachment crashes are also overrepresented in the study area when compared to the County.

3.2 Crash Severity

The Ernston Road and Washington Road study corridor had a comparable crash severity distribution to countywide crashes, with only a slightly higher percentage of possible injury crashes (13.9 percent) compared to the County (13.3 percent). See **Table 3** for a breakdown of crashes by severity.

Table 3. Ernston Road (CR 673) and Washington Road (535) crashes by severity.

Crash Severity	Number of Crashes	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
No Apparent Injury	241	79.5%	75.6%	3.9%
Possible Injury	42	13.9%	13.3%	0.6%
Suspected Minor Injury	19	6.3%	9.6%	-3.3%
Suspected Serious Injury	1	0.3%	1.2%	-0.9%
Fatal Injury	0	0.0%	0.3%	-0.3%

3.3 Temporal Trends

The following graphs show the crash breakdown by month, day of the week, and time of day.

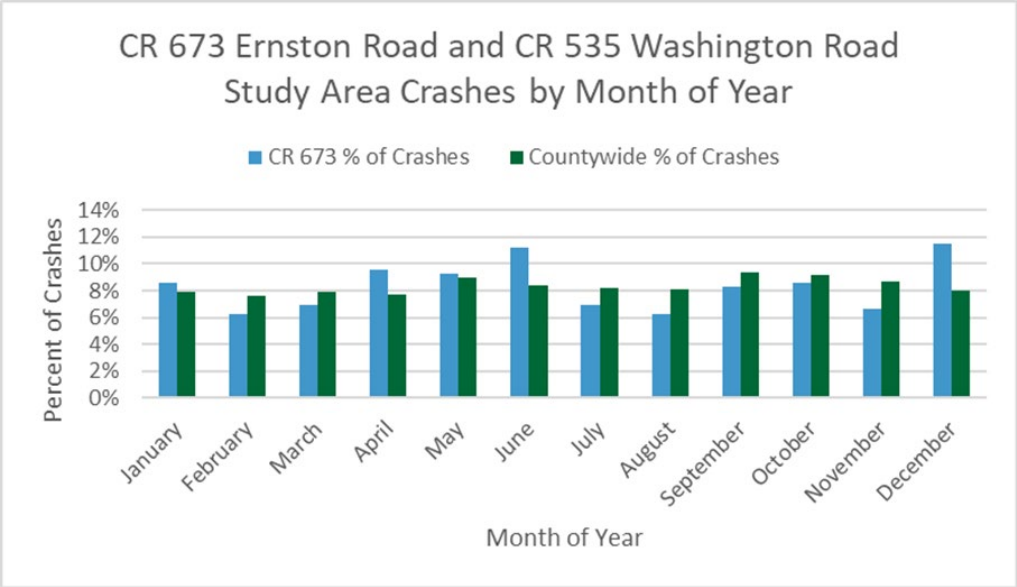


Figure 7. Ernston Road (CR 673) and Washington Road (CR 535) crashes by month of the year.

Figure 7 shows that a greater percentage of crashes along the corridor occurred in April through June, and December through January, compared to the average in Middlesex County.

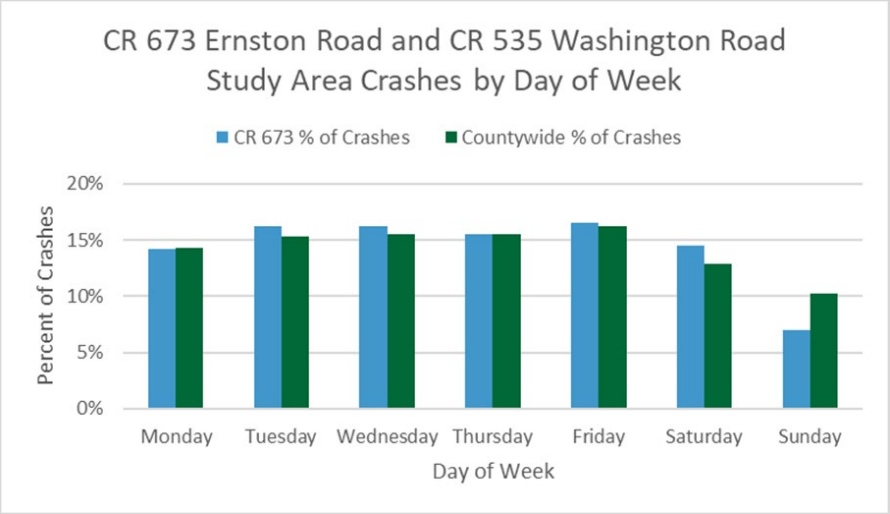


Figure 8. Ernston Road (CR 673) and Washington Road (CR 535) crashes by day of week.

Figure 8 shows a higher percentage of crashes occurred on the study corridor on Tuesdays, Wednesdays, and Saturdays compared to countywide crashes.

Figure 9 compares the study area crash percentages to the countywide percentage of crashes by time of day.

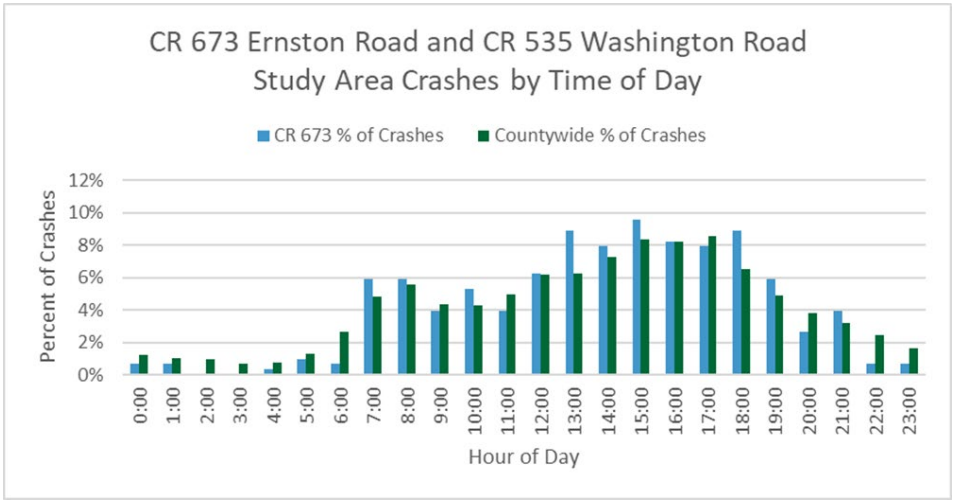


Figure 9. Ernston Road (CR 673) and Washington Road (CR 535) crashes by time of day.

Crashes along the corridor are higher than the average in Middlesex County from 7 to 9 am, from 10 to 11 am, from 1 to 4 pm, and from 6 to 8 pm. The higher percentages in the morning and afternoon correspond with the arrival and dismissal periods of the schools on the corridor.

3.4 Roadway Surface & Lighting Conditions

The percentage of crashes on Ernston and Washington Road during wet road surface conditions (19.5 percent) was higher than the countywide percentage (15.1 percent). See **Table 4** for the percentage of crashes by road surface condition.

Table 4. Ernston Road (CR 673) and Washington Road (CR 535) crashes by roadway surface conditions.

Road Surface Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Dry	78.2%	82.3%	-4.1%
Wet	19.5%	15.1%	4.4%
Icy/Snowy/Slush	2.3%	1.9%	0.4%
Other/Unknown	0.0%	0.7%	-0.7%

The percentage of crashes by light conditions is listed in **Table 5**.

Table 5. Ernston Road (CR 673) and Washington Road (CR 535) crashes by light conditions.

Light Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Daylight	75.6%	69.5%	6.1%
Dawn or Dusk	5.0%	4.2%	0.8%
Dark - Lighted	19.1%	23.2%	-4.1%
Dark - Not Lighted	0.3%	2.0%	-1.7%
Unknown	0.0%	1.1%	-1.1%

Crashes occurred slightly more frequently during Dawn or Dusk conditions (5 percent) compared to countywide crashes (4.2 percent) under the same conditions.

3.5 Near Miss Analysis

The near-miss analysis was conducted for the Ernston and Washington Road intersection. Data collection included 48 hours of video recording at the intersection, which was processed using artificial intelligence to flag near misses.



Figure 11. Ernston Road (CR 673) and Washington Road (CR 535) near miss example.

A post-encroachment time (PET) was determined for each near miss, which measures the time between one road user leaving a given point on a roadway and a second road user arriving at the same point. A PET of zero seconds means that a crash occurred, while a long PET suggests that two road users passed through the same point of conflict but with a significant amount of time lapsed between both vehicles. Conflicts by mode and PET during the 48-hour observation period are listed in **Table 6**, with a total of 482 conflicts in a two-day period.

Table 6. Ernston Road (CR 673) and Washington Road (CR 535) intersection near misses by mode and PET.

Conflict Mode	Post-Encroachment Time			Total Conflicts	Percent of Total Conflicts
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	1	15	329	345	71.6%
Vehicle-Bicycle	1	3	17	21	4.4%
Vehicle-Pedestrian	2	12	102	116	24.1%
Total	***4***	***30***	***448***	***482***	*100%*

Most near-misses were vehicle-to-vehicle conflicts, with 72 percent of near-misses. More significantly, 53 percent of near-misses with a PET of less than two seconds involved a vulnerable road user (VRU), and 75 percent of near-misses with a PET of less than 1.5 seconds involved a VRU. This is the closest signalized intersection to the Sayreville War Memorial High School and Kennedy Park.

The data was also analyzed to determine which movements most often resulted in near-misses at the intersection. Conflicts with A PET of two seconds or more were not included in the analysis as vehicle-to-vehicle near-misses greater than two seconds were associated with a through movement and the subsequent perpendicular through movement. The movement type

with the most near-misses involved a westbound left-turning vehicle turning in front of an eastbound through-vehicle.

3.6 Crash and Near Miss Data Finding Summary

Based on the crash data analysis, the crash types with the greatest PSI include same direction – rear-end, left turn/U turn, right angle, and encroachment crashes.

Many unsignalized intersections along Ernston Road do not have right or left turn lanes, and there are several closely spaced driveways, which may contribute to rear end crashes, as a trailing driver may not notice a leading driver slowing or stopping to turn right or left into a minor road or driveway. Left turn crashes may occur when a driver misjudges the speed and distance of an oncoming vehicle, and/or becomes impatient waiting to turn left due to insufficient gaps in traffic. Similar to left turn crashes, right angle crashes may occur when a driver attempts to turn onto Ernston Road or Washington Road and misjudges the speed and distance of traffic from either direction and/or does not have sufficient gaps in traffic to safely make the maneuver. Tight intersection geometry or insufficient gaps in traffic may contribute to encroachment crashes.

The analysis also noted that crashes during wet road surface conditions were overrepresented. Insufficient drainage structures, and/or debris covering drains and worn pavement markings, may contribute to crashes during wet road surface conditions.

Crashes during dawn or dusk, and occurring from 7 to 9 am, 10 to 11 am, 1 to 4 pm, and 6 to 8 pm were overrepresented. These overrepresented time periods align with school arrival and dismissal periods and morning and evening commuting, as the major land uses are educational and residential.

The near miss conflict data analysis at the intersection of CR 673 Ernston Road and CR 535 Washington Road identified 17 movement combinations that conflicted with a post-encroachment time of less than two seconds, with the most conflicts, 13, occurring between westbound left-turning vehicles and eastbound through vehicles. During the crash data study period there were three reported crashes between these movements.

4 RSA LOGISTICS

4.1 Audit Schedule

Participants were given a pre-audit briefing at the local officials' meetings to prepare for the in-person field visit component of the RSA. Participants were briefed on the audit itinerary, walking route, observations, and takeaways from the project team's field visits, and general safety guidelines. The Ernston Road and Washington Road local officials meeting and pre-audit briefing took place on October 2nd, 2024. The local officials' meeting presentation is provided in **Appendix D**.

The RSA team convened on Tuesday, October 21st, 2024, at 8:00 a.m. for the Ernston Road and Washington Road field audit. Participants met at the parking lot of the Sayreville Public Library, just west of the corridor. Following a summary of the orientation given during the pre-audit briefings, participants were given a safety vest and a corridor prompt list. The corridor prompt list consisted of several "yes/no" questions intended to prompt consideration of various topics, including sidewalk and roadway conditions, conflict points between drivers and pedestrians, lighting, driveways, intersection geometry, transit access, and overall perception of safety along the corridor. Audit materials are included in **Appendix E**.

An in-person debrief was held immediately after the audit to discuss findings and observations. Identified issues and improvements focused on operational and design aspects of the corridor suggested by audit participants in the field and/or through their completed prompt lists. Identified issues and improvements were categorized as either corridor-wide or location-specific and are presented in Section 5 of this report. Corridor-wide issues and treatments were observed at multiple locations throughout the study corridor, while site-specific issues and treatments focused on specific mid-block locations or intersections.

4.2 Audit Participants

The RSA participants consisted of Middlesex County staff, the consultant project team, municipal staff, local residents, and representatives from the NJTPA, KMM, and AARP. The participants in attendance at each audit event, including the local officials meeting and the in-person audit, are listed in **Appendix F**.

5 IDENTIFIED ISSUES & OBSERVATIONS

The following is a summary of the identified deficiencies and observations made by the audit team.

5.1 Corridor-wide

The audit team observed and discussed the following items at multiple locations.

Description	Photo Example
Crosswalk Condition and Striping The audit team observed faded crosswalks throughout the corridor. Most crosswalks within the study area are striped in the "standard" fashion, with two parallel lines, and lacking retro-reflectivity. These crosswalks are not considered high-visibility resulting in limited driver crosswalk awareness on the approach to an intersection.	
Unmarked Crosswalks with ADA Ramps The audit team also noted a lack of marked crosswalks at key locations adjacent to bus stops. There are no marked crosswalks across Ernston Road outside of signalized intersections, causing pedestrians to walk long distances, at times, almost half a mile to cross at formal, controlled crossings. Additionally, the presence of ADA ramps at unmarked crosswalks imply to the pedestrian that they can safely cross at a location with no visual indication to drivers of the presence of a pedestrian crossing.	

Lane Striping and Edge Lines

Lane Striping and Edge Lines are not provided consistently throughout the corridor. This is a missed opportunity to achieve traffic calming benefits, and to provide desired separation from traffic for pedestrians and cyclists.



Substandard Sidewalks

Sidewalk conditions vary throughout the corridor. Settled, cracked, worn, and uneven sidewalks were observed at many locations. The uneven terrain is challenging for those with limited mobility and a tripping hazard. In other places, there are drop-offs adjacent to the sidewalk on the buffer zone which can also result in potential injuries.

Cracking, worn, and uneven sidewalks often present tripping hazards to pedestrians.





Sidewalk Maintenance

Debris was found in several locations including in front of the Sayreville War Memorial High School, making the sidewalk slippery, especially to those on wheels or in wheelchairs. Overgrown vegetation was also observed in several locations, narrowing the navigable width of the sidewalk space. The image on the right shows severely worn pedestrian desire lines on the grass buffer, which indicates that pedestrians are avoiding the sidewalk space due to the overgrown vegetation.



Substandard and Noncompliant Curb Ramps

Curb ramps at multiple intersections were not flush with the surrounding sidewalk and posed a tripping hazard for pedestrians and safety hazards for wheelchair users at the intersection.

Some were poorly or incorrectly installed, creating safety risks and hazards.



Speeding

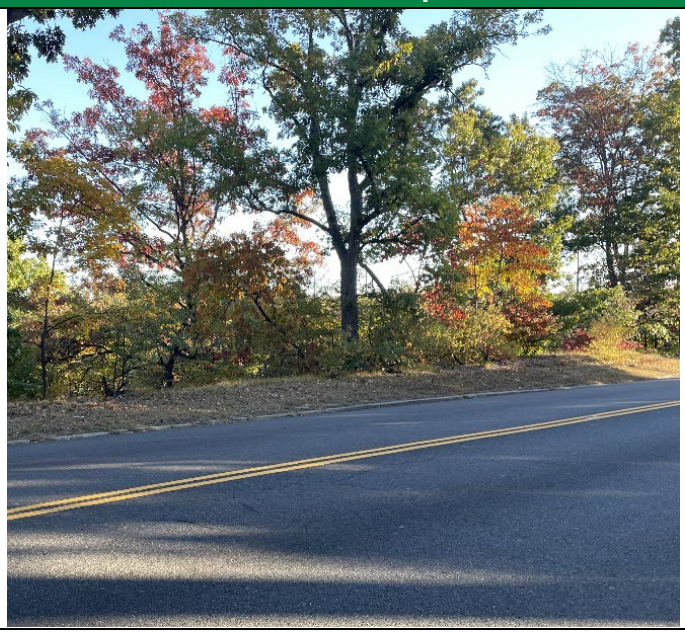
Audit participants noted high vehicle speeds along Ernston Road, which has no on-street parking, wide travel lanes, and frequent lack of edge lines. Long distances between signalized intersections also enable drivers to pick up speed. High vehicle speeds contribute to more severe crashes and fatalities. Speed management is critical to safety with two schools on the corridor.

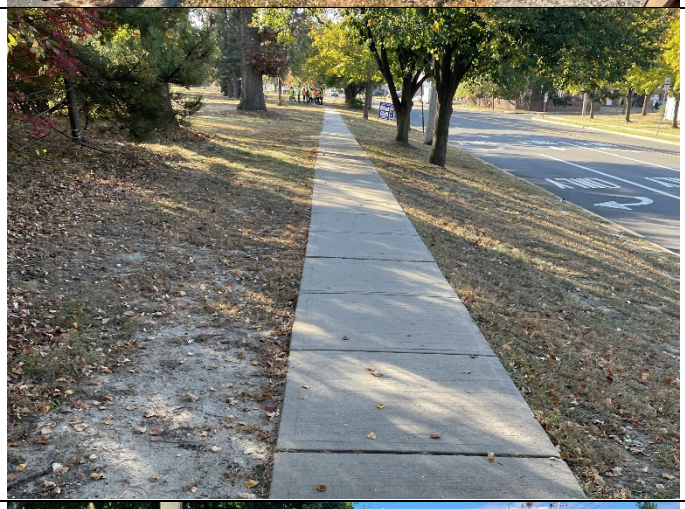


Signal Visibility Signals throughout the corridor lacked retroreflective backplates, which can help improve the visibility of the traffic signal heads.	
Parking Obstructing Sidewalk Space In both the pre-audit field visit and during the RSA, the team observed commercial vehicles parking on the sidewalk, forcing pedestrians to walk on the narrow sidewalk buffer or in the roadway. There is no on-street parking on Ernston Road, and commercial, service, and delivery vehicles lack a usable space to park if providing services to any of the homes along the corridor.	

5.2 Location-specific

The following items were location-specific and were discussed by the audit team at specific intersections or mid-block locations.

Description	Photo Example
Location: John F. Kennedy Park There is no sidewalk on the westbound side of Washington Road from the entrance to John F. Kennedy Park to the west of the study area, and on the southbound side of the park's entrance. The park hosts numerous municipal events, generating frequent pedestrian trips and many pedestrian crossings of Washington Road. High School students also park at JFK Park and walk across Washington Road to the high school. During heavily attended events, visitors may have to walk long distances and sometimes walk in the roadway, and may be forced to use inadequate and unmarked crossings.	
Location: Entrance to Sayreville War Memorial High School and John F. Kennedy Park Audit participants noted that this is a well-used crosswalk due to the use by high school students and during park activities, which include frequent municipal events held at the park. A crossing guard is stationed at this location during school arrival and dismissal. Participants noted that some high school seniors have early dismissals with no crossing guard posted at the location. Washington Road has consistent through traffic. Audit participants observed a pedestrian waiting a considerable amount of time to cross the road due to infrequent breaks in traffic and failure of drivers to yield.	

Location: Washington Road and Ernston Road Intersection The yield-controlled slip lane for vehicles turning right onto Ernston Road from Washington Road can encourage high-speed turns, and is incompatible with the local, suburban context and posted speed limits, compromising pedestrian safety at the closest signal-controlled intersection to Sayreville War Memorial High School. The slip lane is defined by an adjacent and narrow refuge island, forcing pedestrians to navigate multi-staged crossings of both Washington Road and Ernston Road.	
Location: Northbound side of Ernston Road from Holly Drive to Washington Road Audit participants noted a lack of pedestrian amenities like benches and pedestrian-scale lighting in this segment. Audit participants who are local residents also shared that this section is dark at night.	
Location: Mid-block horizontal curve, between Jeffrey Court and Locust Lane The horizontal curve on the road limits driver sightlines. The team observed that there were few horizontal curve warning signs, and limited retroreflective delineators for nighttime visibility. The team discussed this location (anecdotally) as a problem area for trucks traveling at high speeds.	

Location: Bordentown Avenue (CR 615) Queuing on Ernston Road at the southbound approach to Bordentown Avenue will often back up into the next intersection, blocking the "Do Not Block" intersection striping at Singer Court, and the left-turn lane onto Pinetree Drive. Drivers often performed "queue-jumping maneuvers," using the painted center median and left turn lanes at the Holly Drive and Pinetree Drive intersection as a through-lane (illegal and unsafe movement) to get to the downstream left-turn lane at the Bordentown Avenue intersection.	
Location: Mid-block location between Rutgers Road and Villanova Road The trench drainage plate is improperly installed, severely worn, and eroded, posing a significant tripping hazard.	
Location: Entrance to the Samsel Upper Elementary School Although left turns are not allowed for drivers exiting the school property onto eastbound Ernston Road, there are no physical barriers preventing vehicles from doing so. Local participants noted that this is a frequent occurrence.	

Location: Route 9 Southbound Exit Ramp

Participants felt that the Route 9 exit ramp, with its high-speed channelized design, was challenging to cross safely as a pedestrian. Because it is a yield-controlled intersection with an acceleration lane on Ernston Rd, vehicles do not always slow down or yield at the marked crosswalk as they exit Route 9 Southbound to Ernston Road. Vehicle sight lines are also compromised due to a horizontal curve before the intersection approach.



6 FINDINGS & RECOMMENDATIONS

Recommendations were formulated based on existing conditions data findings and the identified issues and observations discussed and recorded during the safety audit and the post-audit debrief. Recommendations are organized into two groups: corridor-wide, and site-specific. Corridor-wide recommendations are prescribed for issues identified along multiple locations throughout the corridor, while site-specific recommendations are more targeted, focusing on specific intersections or segments.

6.1 Implementation Matrix (Recommendations)

The Implementation Matrix lists the findings and recommendations made by the RSA Team and County staff. Recommendations have a corresponding order of magnitude cost, timeframe, and jurisdiction to assist with project prioritization and implementation. The recommendations in bold font are an FHWA Proven Safety Countermeasure (PSC) that includes a collection of 28 proven strategies to reduce serious injury and fatal crashes.[3] Ultimately, these recommendations should be evaluated and designed for the roadway context by the roadway owners and/or a professional engineer according to applicable codes, standards, and best practices.

Table 7. Implementation Matrix legend

Symbol	Meaning	Definition
$	Low Cost	Maintenance and simple road repairs.
$$	Medium Cost	May require engineering or design work.
$$$	High Cost	Longer-term projects that might require full engineering and ROW acquisition.
🕐	Short Term	Could be accomplished within one year.
🕐🕐	Medium Term	Could be accomplished within one to three years and may require some engineering.
🕐🕐🕐	Long Term	Could be accomplished within three years or more and may require full engineering.

[3] https://highways.dot.gov/safety/proven-safety-countermeasures

Table 8. Ernston and Washington Road recommendations.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Washington Road & Ernston Road - Corridor Wide				
1	**Conduct a sidewalk assessment to identify specific locations where the sidewalks need repair, replacement, or construction[4].**	**$$**	🕐🕐	Municipality
2	Conduct a curb ramp assessment to identify specific locations in need of upgrades for ADA compliance.	**$$**	🕐🕐	County, Municipality
3	**Consider conducting a lighting analysis to identify specific locations in need of lighting upgrades.**	**$$**	🕐🕐	County, Municipality
4	Conduct a sign inventory, checking for placement, condition, and retro reflectivity, and replace/add/remove signs as needed based on MUTCD requirements.	**$$**	🕐🕐	County
5	**Stripe edge lines.**	**$**	🕐	County
6	**Consider installing bike lanes.**	**$$**	🕐🕐	County
7	Provide sidewalk buffer between curb and sidewalk.	**$$$**	🕐🕐🕐	County, Municipality
8	**Revise the County's standard driveway apron design for development applications, including sidewalk treatment/materials carried through the driveway and ADA-compliant sidewalk treatments, to apply to all new development and redevelopment projects on County roads including single-family and multi-family residential developments.**	**$**	🕐	County
Washington Road				
9	**Investigate the feasibility of constructing a sidewalk on the westbound side of Washington Road where currently missing, west of the entrance to Kennedy Park, given the slope constraints.**	**$$**	🕐🕐	Municipality

[4] The County neither constructs nor maintains sidewalk along a County road. Maintenance of sidewalks is the responsibility of the adjacent property owner, and municipalities may enforce maintenance by local ordinance. Municipalities can also construct sidewalk and have the legal ability to assess property owners for the cost.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Entrance to High School and Kennedy Park				
10	Install a diagonal downward arrow sign (W16-7P) to supplement the school crossing signs in place at both approaches to the crosswalk.	**$**	🕐	County
11	**Consider Rectangular Rapid Flashing Beacons (RRFB) at the crosswalk between the entrances of Kennedy Park and Sayreville War Memorial High School.**	**$**	🕐	County, Municipality
12	**Consider installing curb extensions or a curbed pedestrian refuge island.**	**$**	🕐	County, Municipality
13	Consider applying for Safe Routes to School (SRTS) funding for an Operation and Site Traffic Plan for the High School and for additional safety improvements.	**$**	🕐🕐🕐	Municipality, School District
14	**Investigate signalization of the Sayreville War Memorial High School and Kennedy Park intersection with a left turn lane to allow queueing for left turns onto Washington Road.**	**$$**	🕐🕐	County, Municipality, School District
15	**Install sidewalks on the southbound side of the entrance to Kennedy Park, adjacent to the crosswalk on Washington Road.**	**$**	🕐	Municipality
Ernston Road and Washington Road				
16	Evaluate truck turning movements to consider removing slip lanes and pork chop islands in favor of right turns and smaller radii. If slip lane removal is not feasible revise right turn controls to signalized or stop controlled.	**$$**	🕐🕐	County
17	**Upgrade signals to 12" signal heads with retroreflective backplates.**	**$**	🕐	County
18	Install countdown pedestrian signal heads and ADA-compliant ramps and push buttons.	**$**	🕐🕐	County
19	**Stripe high-visibility crosswalks at all legs of the intersection.**	**$**	🕐	County
20	Revise signal phasing to protected only for westbound left turns.	**$$**	🕐🕐	County

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
School Drive				
21	**In conjunction with a new site circulation plan at Sayreville War Memorial High School, consider prohibiting left turns out of School Drive.**	**$**	🕐	County, Municipality, School District
22	**Consider installing a curbed median on Ernston Road at School Drive.**	**$**	🕐	County
23	**Install high-visibility crosswalk with RRFBs. If median is installed, include pedestrian refuge island as part of a new crossing.**	**$$**	🕐🕐	County
24	**Stripe a left turn lane on Ernston Road westbound, for vehicles turning into School Drive.**	**$**	🕐	County
Mary Lou Lane				
25	**Stripe a high-visibility crosswalk across Mary Lou Lane.**	**$**	🕐	Municipality
26	**Evaluate existing curb ramp placement on the westbound side of Ernston Road, north and south of the Mary Lou Lane intersection, to allow for installation of corresponding curb ramps on the eastbound side of the road that do not conflict with existing driveways. With curb ramps on both sides of the corridor, install high-visibility crosswalks with accompanying Pedestrian Crossing (W11-2) signs and evaluate the feasibility of RRFBs.**	**$**	🕐	County
Jeffrey Court				
27	**Stripe a high-visibility crosswalk across Jeffrey Court.**	**$**	🕐	Municipality
Between Jeffrey Court and Locust Lane				
28	**Install high friction surface treatment at the horizontal curve.**	**$$**	🕐🕐	County
29	**Install reflective delineation along the outside of the curve in both directions.**	**$**	🕐	County
30	**Investigate the feasibility of removing the existing guiderail or determine if improvements are needed to the existing guiderail.**	**$$**	🕐🕐	County
31	**Consider additional lighting at the horizontal curve and approaches in both directions.**	**$$**	🕐🕐	Municipality

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
32	Inventory existing signs for changes in horizontal alignment. Consider installing additional curve warning signs.	$	🕐	County
33	**Provide slower advisory speed ahead of the horizontal curve.**	$	🕐	County
Locust Lane				
34	**Stripe a high-visibility crosswalk across Locust Lane.**	$	🕐	Municipality
Cori Street				
35	**Restripe stop bar at the Cori Street approach.**	$	🕐	Municipality
36	**Stripe high-visibility crosswalks across Cori Street and Ernston Road, aligning with the existing curb ramps north and south of Cori Street.**	$	🕐	County, Municipality
37	Consider centerline hardening on Ernston Road from Cori Street to Bordentown Avenue	$$	🕐🕐	County, Municipality
Pinetree Drive/Holly Drive				
38	**Evaluate existing traffic patterns for potential left turn restrictions from side streets to reduce conflict points at the intersection. Consider removing westbound left-turn lane onto Pinetree Drive, restricting left turns, and directing left-turns to Locust Lane. Consider relocating westbound Ernston Road lane drop prior to the Holly Drive intersection. Consider extending the left-turn lane at the eastbound Bordentown Avenue approach.**	$$	🕐🕐	County, Municipality
39	**Restripe stop bars and double yellow lines at the Pinetree Drive and Holly Drive approaches.**	$	🕐	Municipality
40	**Stripe high-visibility crosswalks across Pinetree Drive and Holly Drive.**	$	🕐	Municipality
41	**Install a high-visibility crosswalk across Ernston Road, at the Pinetree Drive/Holly Drive intersection, with ADA compliant curb ramps, RRFBs, and signage.**	$$	🕐🕐	County, Municipality
Singer Court				
42	**Restripe the stop bar at the Singer Court approach.**	$	🕐	Municipality
43	**Stripe a high-visibility crosswalk across Singer Court.**	$	🕐	Municipality

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Johnson Lane				
44	**Stripe a high-visibility crosswalk across Johnson Lane.**	**$**	🕐	Municipality
45	**Restripe the stop bar and double yellow line at the Johnson Lane approach.**	**$**	🕐	Municipality
46	Improve striping and signage (R3-2) to prohibit eastbound left turn lanes onto Johnson Lane from Ernston Road.	**$**	🕐	Municipality
47	Install a right-in/right-out (RIRO) channelizing island to prohibit eastbound left turn lanes onto Johnson Lane from Ernston Road.	**$**	🕐	Municipality
Bordentown Avenue				
48	**Perform a more targeted intersection improvement study that looks at existing volumes, geometry, lane configurations, signal improvements, drainage, and striping.**	**$**	🕐	County
49	**Consider adjusting signal phasing to operate Ernston Road left turns onto Bordentown Avenue as a protected-only lagging phase.**	**$$**	🕐🕐	County
50	**Install retroreflective backplates on traffic signals to improve signal visibility.**	**$**	🕐	County
51	**Stripe high-visibility crosswalks at all approaches.**	**$**	🕐	County
Parkway Place				
52	**Stripe a high-visibility crosswalk across Parkway Place.**	**$**	🕐	Municipality
Rutgers Road				
53	Repair/replace drainage channel south of Rutgers Road, by NJ TRANSIT bus stop.	**$**	🕐🕐	Municipality, Property Owner
54	**Stripe a high-visibility crosswalk across Rutgers Road.**	**$**	🕐	Municipality
55	**Restripe the stop bar and double yellow line at the Rutgers Road approach.**	**$**	🕐	Municipality
Center Avenue				
56	**Consider striping a high-visibility crosswalk across Ernston Road in conjunction with RRFB, adjacent to the bus stop on the westbound side.**	**$$**	🕐🕐	County

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
57	**Construct sidewalk where missing, just north of Center Avenue.**	**$**	🕐🕐	Municipality, Property Owner
58	**Stripe a high-visibility crosswalk across Center Avenue.**	**$**	🕐	Municipality
59	**Restripe the stop bar and double yellow line at the Center Avenue approach.**	**$**	🕐	Municipality
Villanova Road				
60	**Investigate the feasibility of a road diet east of Villanova Road. Relocate the westbound merge to west of the Samsel Upper Elementary School driveway. The eastbound direction could flare to two lanes just east of the school driveway.**	**$$**	🕐🕐	County, Municipality
61	**Stripe a left-turn lane on Ernston Road to Villanova Road.**	**$**	🕐	County
62	Upgrade curb ramps.	**$**	🕐	Municipality
63	**Stripe a high-visibility crosswalk across Villanova Road.**	**$**	🕐	Municipality
64	**Restripe the stop bar and double yellow line at the Villanova Road approach.**	**$**	🕐	Municipality
Entrance to Samsel Upper Elementary School				
65	**In conjunction with a road diet, evaluate the feasibility of installing a pedestrian refuge island with a high-visibility crosswalk and an RRFB adjacent to the school driveway.**	**$$**	🕐🕐	County
66	Consider installing an S1-1 and S4-3P school zone sign assembly west of the school.	**$**	🕐	County
67	**Consider enforcing a school zone speed limit of 25 mph and accompanying School Speed Limit sign assembly (S4-3P, R2-1, and S4-2P).**	**$**	🕐	County, Municipality
68	**With lower speeds and a possible road diet, consider accommodating left turns from the school, with a striped left turn lane at the school driveway for queuing.**	**$$**	🕐🕐	County, Municipality, School District
Route 9 SB Ramps				
69	Trim overgrown vegetation adjacent to the slip lane.	**$**	🕐🕐	State

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
70	**Evaluate the feasibility of installing RRFBs at the channelized right turns from the Route 9 SB ramps onto Ernston Road.**	**$$**	🕐🕐	State
71	Install a fluorescent yellow-green Pedestrian Crossing (W11-2) with an AHEAD supplemental plaque, to cue drivers that pedestrians may be crossing ahead.	**$**	🕐🕐	State
72	**Stripe high-visibility crosswalks at all approaches.**	**$**	🕐🕐	State
73	Install school zone signs (S1-1 and S4-3P).	**$**	🕐🕐	County

6.2 Potential Funding Sources

Some safety enhancement concepts may be able to be implemented using signs and paint. These tend to be low cost, and are assumed to be completed with County staff and maintenance budgets. For larger project, external funding may be required. There are several state and federal programs available to fund road safety improvements. This section provides a brief overview of several funding sources including applicant requirements and the types of projects typically funded. Funding programs are subject to change. Additional information can be found by clicking on the link below each program.

6.2.1 Local Safety Program

The Local Safety Program (LSP) is a federally funded program supporting the construction of cost-effective and high-impact safety improvements on county and local roads. This program focuses on implementing FHWA Proven Safety Countermeasures (PSC), which are included as part of the safety recommendations in this report. Eligible projects include new traffic signals, road diets, roundabouts, curb extensions, pedestrian signals, and bike lanes. NJTPA subregions can receive application assistance through the Consultant Assistance Program a year in advance of the LSP solicitation. Consultants can help with required application elements like traffic data collection, crash diagrams, environmental impacts, alternatives analysis, and conceptual layouts.

The LSP application considers RSAs in the “Past Studies” portion of Section 3, awarding one point in the project scoring form for corridors that have undergone an RSA. The RSA process also produces data required for the application including crash diagrams and recommended PSCs.

https://www.njtpa.org/LSP.aspx

6.2.2 Safe Streets and Roads for All

The Safe Streets and Roads for All (SS4A) was established by the Bipartisan Infrastructure Law (BIL) with $5 billion in appropriated funds for over five years to support initiatives that prevent serious injury and fatal crashes. The program currently is anticipated to continue until FFY 2026. The program offers Planning and Demonstration Grants and Implementation Grants. Because the County has already adopted the Vision Zero Safety Action Plan, the Planning and Demonstration Grant can be used to fund supplemental planning or demonstration activities that support the Action Plan including action plan updates, follow-up data collection and safety analysis, progress reporting, feasibility studies, MUTCD engineering studies, and behavioral or operational activity pilot programs. The Implementation Grant funds projects and strategies identified in the Action Plan. Eligible Implementation Grant projects include low-cost safety treatments like striping and road diets, improving pedestrian networks with lighting and high-

visibility pavement markings, speed management, bike network development, and other infrastructural, behavioral, and operation activities.

The design recommendations in this memo, illustrated in the conceptual plan, can be used for an implementation grant application as they are consistent with the Middlesex County Vision Zero Action Plan action items. Other recommendations to conduct additional safety studies or inventory the current network, can be funded through either a Planning and Demonstration Grant or an Implementation Grant.

https://www.transportation.gov/grants/SS4A

6.2.3 Transportation Alternatives Program

The Transportation Alternatives Set-Aside program offers federal funds for non-traditional surface transportation projects. Counties and municipalities are eligible to apply. Projects are recommended to have a requested funding amount greater than $1.5 million. Funds are provided on a reimbursement basis and projects must be authorized for construction within two years of the grant notification and have formal community support with letters or resolutions of support dated within one year of the application solicitation letter date.

The County would be eligible for funding the improvements recommended in this report under categories 1 and 5, summarized below:

- Design and construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation including new or reconstructed sidewalks and curb ramps, bike lane striping, bike parking and bus racks, and bike and pedestrian bridges and underpasses.
- Community improvement activities including lighting, historic sidewalk paving, benches, planting containers, decorative walls, and walkways.

https://njdotlocalaidrc.com/federally-funded-programs/transportation-alternatives

6.2.4 Safe Routes to School (SRTS)

The Safe Routes to School (SRTS) Program is federally funded by the FHWA and administered by the NJDOT in partnership with the NJTPA, for infrastructure projects enabling K-12 students to walk and bike safely to school, making bicycling and walking to school a more appealing and accessible transportation alternative, and facilitating projects that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Counties, municipalities, and school districts can apply to the program for projects within two miles of a K-12 school. Projects may include ADA-compliant sidewalks and curb ramps, crosswalk

installation, pedestrian pushbuttons and signal heads, bike paths, bike parking, striping, lighting, signals, school zone delineations, and other traffic calming improvements.

SRTS funds are provided on a reimbursement basis. It is recommended that projects have a requested funding amount between $300,000 and $1 million. Projects must be authorized for construction within two years of the grant notification and have community and school district support. The municipality where the project is located should also adopt a Complete Streets Policy to demonstrate a commitment to safety. An SRTS handbook can be found on the NJDOT's Local Aid Resource Center website.

https://njdotlocalaidrc.com/federally-funded-programs/safe-routes-to-school

6.2.5 Local Freight Impact Fund Grant

NJDOT's Local Freight Impact Fund (LFIF) Grant Program is designed to help counties and municipalities mitigate the impact of freight transportation on local roads. The five program categories are:

- **Bridge Preservation**, to improve ratings/conditions in support of large truck traffic
- **New Construction**, in support of large truck traffic
- **Pavement Preservation,** to improve pavement condition in support of large truck traffic
- **Truck Safety and Mobility**, to improve large truck access, routing, and mobility along the County roadway system
- **Pedestrian Safety** to improve pedestrian safety and access

To be eligible for this grant, the project must be within the applicant's jurisdictional limit (unless a joint application is filed), the project must provide access to a freight node, and there must be a minimum of 10 percent large truck volume within the corridor limits when compared to the total ADT.

While this grant is more restricted in scope, focusing on freight transportation, it may be worth exploring locations with heavy truck traffic as the program can fund several safety improvements recommended in this report, especially in locations with pedestrian and truck conflicts. Eligible improvements under the pedestrian safety category include through crosswalks, pedestrian-activated traffic signals, ADA improvements, traffic calming measures, crossing islands, curb extensions, improved lighting, improved signage, constructing or connecting pedestrian routes, sidewalk reconstruction or replacement, and improving hazard conditions for pedestrians.

https://njdotlocalaidrc.com/state-funded-programs/local-freight-impact-fund

6.3 Conceptual Plan

A conceptual “sketch” or “planning-level” plan showing the recommended physical design elements for Ernston and Washington Road is included in **Appendix G**. Please note that the plan is intended to illustrate potential future conditions based on audit recommendations found in Section 6 – Findings & Recommendations and is not meant as engineering drawings.

7 CONCLUSION

The Ernston Road and Washington Road RSA Report identifies road safety issues along the corridor using crash data, roadway characteristics, traffic counts, and experiential data gathered from the RSA events to prescribe safety countermeasures to reduce serious injury and fatal crashes. The data collection process was augmented by stakeholder input and feedback, which highlighted safety issues that weren't evident through the data alone.

Corridor recommendations were developed through a collaborative process involving coordination among the Project Team, the RSA Team, and the County Staff to address the issues identified through the safety audits and the crash data. General corridor recommendations were made for issues consistently observed throughout the corridor, like faded crosswalks and a lack of pedestrian signals, while site-specific recommendations were made for key mid-block locations and intersections and gaps in the sidewalk network. Recommendations have an associated order of magnitude cost, implementation timeframe, and responsible jurisdiction to assist the County with project prioritization and implementation. Conceptual plans, based on audit recommendations, were also created to help illustrate potential future corridor conditions.

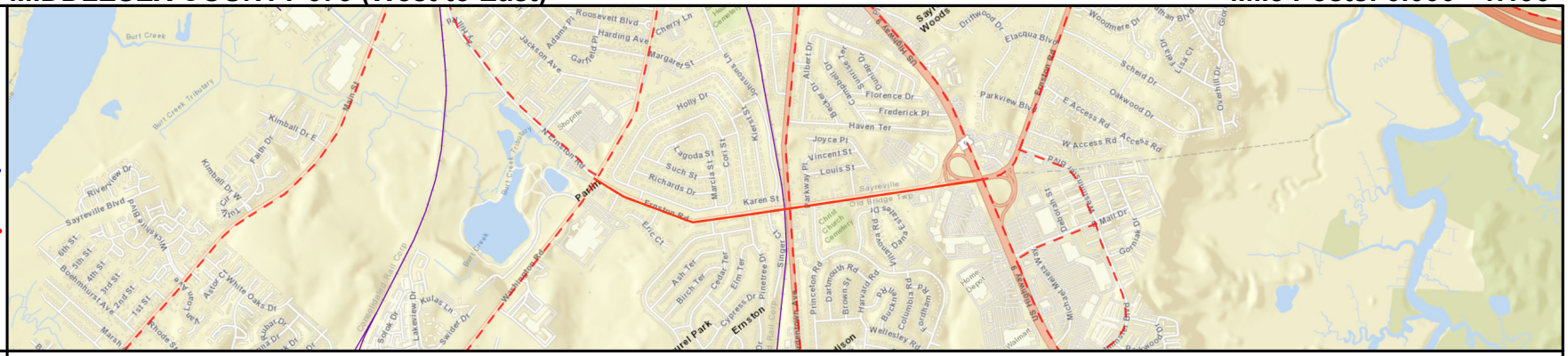
The safety improvements recommended in this report are consistent with the County's Vision Zero Safety Action Plan to reduce serious injuries and fatalities on County roadways. A variety of short-term and long-term interventions are recommended so that small steps can be taken incrementally to improve safety for all road users in Middlesex County.

Appendix A

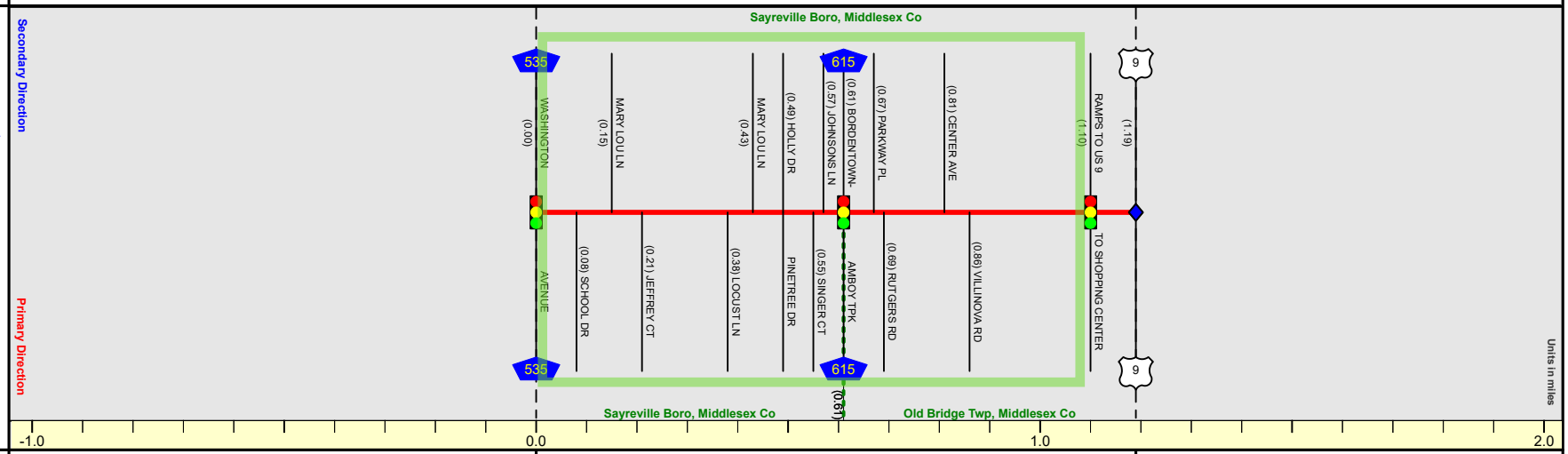
Straight Line Diagram

MIDDLESEX COUNTY 673 (West to East)

Mile Posts: 0.000 - 1.190



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Ernston Road
Jurisdiction	County
Functional Class	Urban Minor Arterial
Federal Aid - NHS Sy	STP
Control Section	
Speed Limit	35
Number of Lanes	2 + 4
Med. Type	None
Med. Width	
Pavement	36 + 28 + 48
Shoulder	
Traffic Volume	17,634 (2017)
Traffic Sta. ID	111273
Structure No.	
Enlarged Views	

Begin Middlesex County 673 MP=0

End Middlesex County 673 MP=1.19

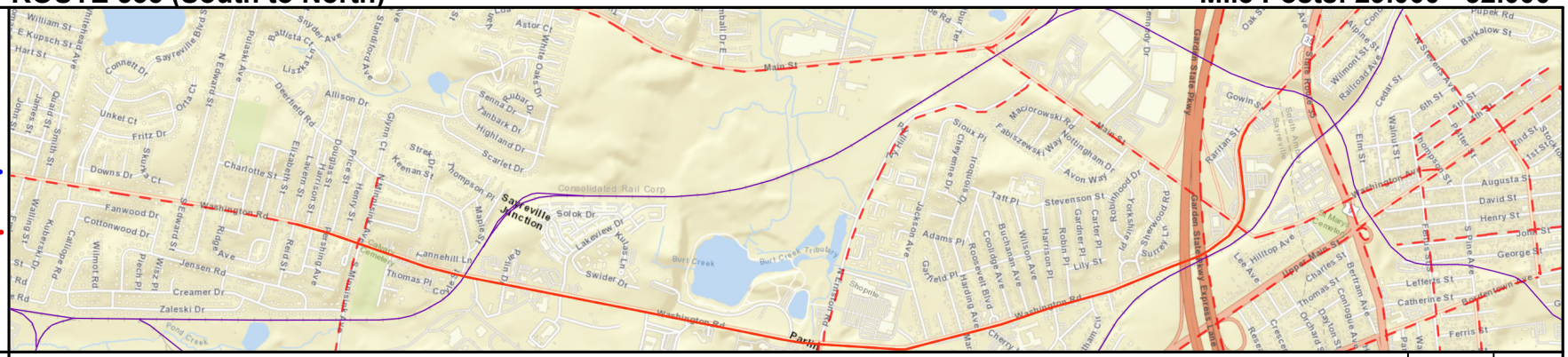
Page Created: June, 2020

SRI = 12000673__

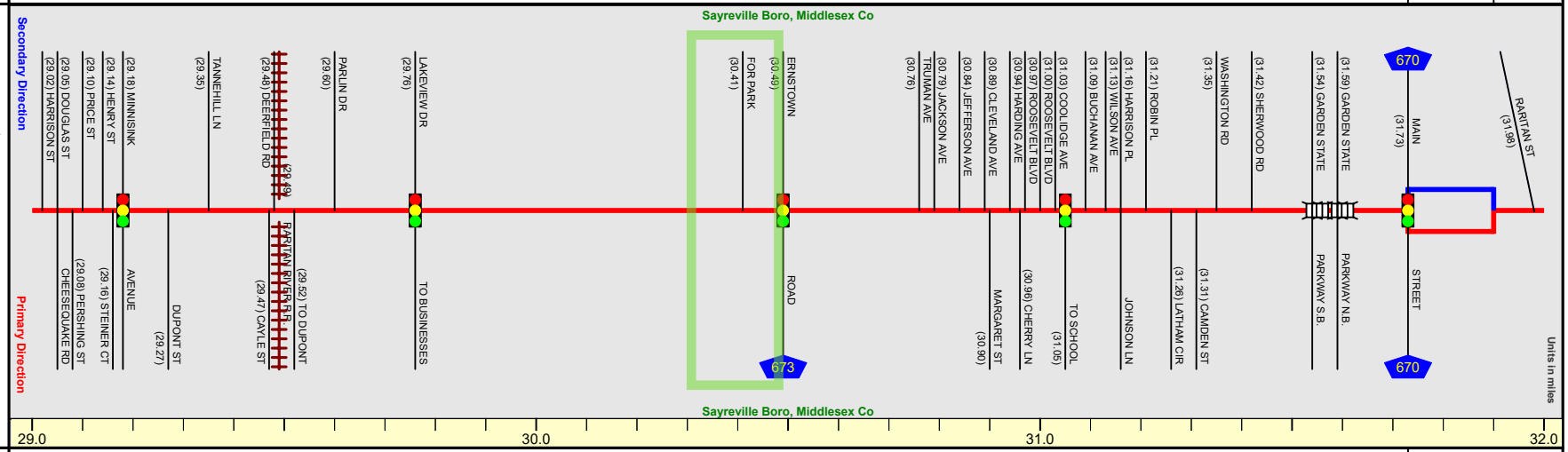
Date last inventoried: June 2011

ROUTE 535 (South to North)

Mile Posts: 29.000 - 32.000



Pavement	24
Shoulder	
Number of Lanes	2
Speed Limit	25
Street Name	Raritan Street



Street Name	Washington Avenue		Raritan Street
Jurisdiction	County		
Functional Class	Urban Minor Arterial		
Federal Aid - NHS Sy	STP		
Control Section			
Speed Limit	35	40	25
Number of Lanes	2		
Med. Type	None		Painted/Unprotected / None
Med. Width			16
Pavement	32	36	24
Shoulder		2	4
Traffic Volume	17,886 (2019)	15,921 (2019)	
Traffic Sta. ID	4-3-022	91217	
Structure No.			361247E 361248O 361247U 361248I
Enlarged Views			

SRI = 00000535__

Date last inventoried: October 2012

Page Created: June, 2020

Appendix B

Traffic Data

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 05/14/2019 to 05/16/2019

Site names:	4-3-022,Washington Avenue-29.52,00000535__	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	Sun, May 12, 2019			Mon, May 13, 2019			Tue, May 14, 2019			Wed, May 15, 2019			Thu, May 16, 2019			Fri, May 17, 2019			Sat, May 18, 2019		
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S
00:00										77	33	44	87	36	51						
01:00										53	23	30	78	39	39						
02:00										46	27	19	55	30	25						
03:00										142	108	34	144	95	49						
04:00										385	260	125	394	258	136						
05:00										728	458	270	749	479	270						
06:00										1,021	589	432	1,049	613	436						
07:00										1,005	562	443	1,010	586	424						
08:00										985	496	489	976	541	435						
09:00										901	468	433	886	468	418						
10:00							880	451	429	1,029	474	555									
11:00							995	488	507	1,053	514	539									
12:00							1,016	519	497	949	466	483									
13:00							1,145	516	629	1,138	489	649									
14:00							1,259	530	729	1,284	546	738									
15:00							1,295	612	683	1,350	625	725									
16:00							1,338	577	761	1,384	628	756									
17:00							1,318	525	793	1,351	617	734									
18:00							1,103	408	695	1,125	484	641									
19:00							788	300	488	864	356	508									
20:00							638	256	382	686	318	368									
21:00							453	162	291	434	167	267									
22:00							255	105	150	250	110	140									
23:00							107	56	51	141	70	71									
Total							12,590	5,505	7,085	18,381	8,888	9,493	5,428	3,145	2,283						
AM Peak Vol							995	488	507	1,053	589	555									
AM Peak Fct							1	1	1	1	1	1									
AM Peak Hr							11: 00	11: 00	11: 00	11: 00	6: 00	10: 00									
PM Peak Vol							1,338	612	793	1,384	628	756									
PM Peak Fct							1	1	1	1	1	1									
PM Peak Hr							16: 00	15: 00	17: 00	16: 00	16: 00	16: 00									
Seasonal Fct							.944	.944	.944	.944	.944	.944	.944	.944	.944						
Daily Fct							1.094	1.094	1.094	1.045	1.045	1.045	.971	.971	.971						
Axle Fct							.495	.495	.495	.495	.495	.495	.495	.495	.495						
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

Created 07/03/2019 1:47 PM

ROAD AADT 17,886 NDIR AADT 9,299 PDIR AADT 8,587

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 14, 2019 Road

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
10	0	704	138	1	28	3	0	3	3	0	0	0	0	0	880	32	6	38
	0.00%	80.00%	15.68%	0.11%	3.18%	0.34%	0.00%	0.34%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.64%	0.68%	4.32%
11	2	801	157	0	22	6	1	3	3	0	0	0	0	0	995	29	6	35
	0.20%	80.50%	15.78%	0.00%	2.21%	0.60%	0.10%	0.30%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.91%	0.60%	3.52%
12	4	835	131	1	28	9	1	1	6	0	0	0	0	0	1,016	39	7	46
	0.39%	82.19%	12.89%	0.10%	2.76%	0.89%	0.10%	0.10%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.84%	0.69%	4.53%
13	3	933	154	3	44	4	0	2	2	0	0	0	0	0	1,145	51	4	55
	0.26%	81.48%	13.45%	0.26%	3.84%	0.35%	0.00%	0.17%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.45%	0.35%	4.80%
14	5	996	193	3	56	0	0	0	6	0	0	0	0	0	1,259	59	6	65
	0.40%	79.11%	15.33%	0.24%	4.45%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.69%	0.48%	5.16%
15	4	1,100	155	0	32	1	0	0	2	0	0	0	0	1	1,295	33	2	35
	0.31%	84.94%	11.97%	0.00%	2.47%	0.08%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.00%	0.08%	100.00	2.55%	0.15%	2.70%
16	8	1,168	134	0	24	0	0	1	3	0	0	0	0	0	1,338	24	4	28
	0.60%	87.29%	10.01%	0.00%	1.79%	0.00%	0.00%	0.07%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.79%	0.30%	2.09%
17	5	1,156	141	1	13	0	0	0	2	0	0	0	0	0	1,318	14	2	16
	0.38%	87.71%	10.70%	0.08%	0.99%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.06%	0.15%	1.21%
18	1	946	147	0	9	0	0	0	0	0	0	0	0	0	1,103	9	0	9
	0.09%	85.77%	13.33%	0.00%	0.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.82%	0.00%	0.82%
19	5	705	71	0	6	0	0	0	1	0	0	0	0	0	788	6	1	7
	0.63%	89.47%	9.01%	0.00%	0.76%	0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.76%	0.13%	0.89%
20	0	564	63	1	7	0	0	0	0	0	0	0	0	3	638	8	0	8
	0.00%	88.40%	9.87%	0.16%	1.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.47%	100.00	1.25%	0.00%	1.25%
21	0	410	40	0	3	0	0	0	0	0	0	0	0	0	453	3	0	3
	0.00%	90.51%	8.83%	0.00%	0.66%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.66%	0.00%	0.66%
22	0	230	19	0	6	0	0	0	0	0	0	0	0	0	255	6	0	6
	0.00%	90.20%	7.45%	0.00%	2.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.35%	0.00%	2.35%
23	0	92	12	0	2	0	0	1	0	0	0	0	0	0	107	2	1	3
	0.00%	85.98%	11.21%	0.00%	1.87%	0.00%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.87%	0.93%	2.80%
Total	37	10,640	1,555	10	280	23	2	11	28	0	0	0	0	4	12,590	315	39	354
	0.29%	84.51%	12.35%	0.08%	2.22%	0.18%	0.02%	0.09%	0.22%	0.00%	0.00%	0.00%	0.00%	0.03%	100.00	2.50%	0.31%	2.81%
Total Count	37	10,640	1,555	10	280	23	2	11	28	0	0	0	0	4	12,590	315	39	354
	0.29%	84.51%	12.35%	0.08%	2.22%	0.18%	0.02%	0.09%	0.22%	0.00%	0.00%	0.00%	0.00%	0.03%	100.00	2.50%	0.31%	2.81%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 15, 2019 Road

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	64	13	0	0	0	0	0	0	0	0	0	0	0	77	0	0	0
	0.00%	83.12%	16.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
01	0	44	6	0	2	0	0	0	1	0	0	0	0	0	53	2	1	3
	0.00%	83.02%	11.32%	0.00%	3.77%	0.00%	0.00%	0.00%	1.89%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.77%	1.89%	5.66%
02	0	35	7	0	3	0	0	0	1	0	0	0	0	0	46	3	1	4
	0.00%	76.09%	15.22%	0.00%	6.52%	0.00%	0.00%	0.00%	2.17%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.52%	2.17%	8.70%
03	1	114	24	0	2	1	0	0	0	0	0	0	0	0	142	3	0	3
	0.70%	80.28%	16.90%	0.00%	1.41%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.11%	0.00%	2.11%
04	0	288	76	2	16	1	0	0	2	0	0	0	0	0	385	19	2	21
	0.00%	74.81%	19.74%	0.52%	4.16%	0.26%	0.00%	0.00%	0.52%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.94%	0.52%	5.45%
05	3	570	115	2	33	3	0	0	2	0	0	0	0	0	728	38	2	40
	0.41%	78.30%	15.80%	0.27%	4.53%	0.41%	0.00%	0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.22%	0.27%	5.49%
06	1	819	137	6	47	6	0	0	5	0	0	0	0	0	1,021	59	5	64
	0.10%	80.22%	13.42%	0.59%	4.60%	0.59%	0.00%	0.00%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.78%	0.49%	6.27%
07	2	799	151	5	39	6	0	0	3	0	0	0	0	0	1,005	50	3	53
	0.20%	79.50%	15.02%	0.50%	3.88%	0.60%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.98%	0.30%	5.27%
08	2	786	141	5	29	17	0	0	5	0	0	0	0	0	985	51	5	56
	0.20%	79.80%	14.31%	0.51%	2.94%	1.73%	0.00%	0.00%	0.51%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.18%	0.51%	5.69%
09	0	713	133	3	35	9	1	0	7	0	0	0	0	0	901	48	7	55
	0.00%	79.13%	14.76%	0.33%	3.88%	1.00%	0.11%	0.00%	0.78%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.33%	0.78%	6.10%
10	0	823	151	0	37	11	0	1	6	0	0	0	0	0	1,029	48	7	55
	0.00%	79.98%	14.67%	0.00%	3.60%	1.07%	0.00%	0.10%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.66%	0.68%	5.34%
11	1	869	140	3	30	4	0	1	5	0	0	0	0	0	1,053	37	6	43
	0.09%	82.53%	13.30%	0.28%	2.85%	0.38%	0.00%	0.09%	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.51%	0.57%	4.08%
12	2	754	150	0	34	2	1	3	3	0	0	0	0	0	949	37	6	43
	0.21%	79.45%	15.81%	0.00%	3.58%	0.21%	0.11%	0.32%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.90%	0.63%	4.53%
13	0	932	150	3	45	3	0	2	3	0	0	0	0	0	1,138	51	5	56
	0.00%	81.90%	13.18%	0.26%	3.95%	0.26%	0.00%	0.18%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.48%	0.44%	4.92%
14	7	1,024	182	2	58	7	0	1	3	0	0	0	0	0	1,284	67	4	71
	0.55%	79.75%	14.17%	0.16%	4.52%	0.55%	0.00%	0.08%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.22%	0.31%	5.53%
15	2	1,120	181	2	32	3	0	2	8	0	0	0	0	0	1,350	37	10	47
	0.15%	82.96%	13.41%	0.15%	2.37%	0.22%	0.00%	0.15%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.74%	0.74%	3.48%
16	5	1,210	147	3	17	0	0	1	0	0	0	0	0	1	1,384	20	1	21
	0.36%	87.43%	10.62%	0.22%	1.23%	0.00%	0.00%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.07%	100.00	1.45%	0.07%	1.52%
17	8	1,174	139	1	21	0	0	1	4	0	0	0	0	3	1,351	22	5	27
	0.59%	86.90%	10.29%	0.07%	1.55%	0.00%	0.00%	0.07%	0.30%	0.00%	0.00%	0.00%	0.00%	0.22%	100.00	1.63%	0.37%	2.00%
18	6	992	111	1	11	1	0	2	1	0	0	0	0	0	1,125	13	3	16
	0.53%	88.18%	9.87%	0.09%	0.98%	0.09%	0.00%	0.18%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.16%	0.27%	1.42%
19	2	783	73	0	4	0	0	1	1	0	0	0	0	0	864	4	2	6
	0.23%	90.63%	8.45%	0.00%	0.46%	0.00%	0.00%	0.12%	0.12%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.46%	0.23%	0.69%
20	3	608	67	0	8	0	0	0	0	0	0	0	0	0	686	8	0	8
	0.44%	88.63%	9.77%	0.00%	1.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.17%	0.00%	1.17%
21	0	392	39	1	0	0	0	0	1	0	0	0	0	1	434	1	1	2
	0.00%	90.32%	8.99%	0.23%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.23%	100.00	0.23%	0.23%	0.46%
22	3	224	21	0	2	0	0	0	0	0	0	0	0	0	250	2	0	2
	1.20%	89.60%	8.40%	0.00%	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.80%	0.00%	0.80%
23	1	125	11	1	1	1	0	1	0	0	0	0	0	0	141	3	1	4
	0.71%	88.65%	7.80%	0.71%	0.71%	0.71%	0.00%	0.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.13%	0.71%	2.84%
Total	49	15,262	2,365	40	506	75	2	16	61	0	0	0	0	5	18,381	623	77	700
	0.27%	83.03%	12.87%	0.22%	2.75%	0.41%	0.01%	0.09%	0.33%	0.00%	0.00%	0.00%	0.00%	0.03%	100.00	3.39%	0.42%	3.81%
Total Count	49	15,262	2,365	40	506	75	2	16	61	0	0	0	0	5	18,381	623	77	700
	0.27%	83.03%	12.87%	0.22%	2.75%	0.41%	0.01%	0.09%	0.33%	0.00%	0.00%	0.00%	0.00%	0.03%	100.00	3.39%	0.42%	3.81%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 16, 2019 Road

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	72	15	0	0	0	0	0	0	0	0	0	0	0	87	0	0	0
	0.00%	82.76%	17.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
01	0	71	3	0	3	0	0	0	1	0	0	0	0	0	78	3	1	4
	0.00%	91.03%	3.85%	0.00%	3.85%	0.00%	0.00%	0.00%	1.28%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.85%	1.28%	5.13%
02	0	45	6	1	1	1	0	0	1	0	0	0	0	0	55	3	1	4
	0.00%	81.82%	10.91%	1.82%	1.82%	1.82%	0.00%	0.00%	1.82%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.45%	1.82%	7.27%
03	0	116	23	0	3	1	0	0	1	0	0	0	0	0	144	4	1	5
	0.00%	80.56%	15.97%	0.00%	2.08%	0.69%	0.00%	0.00%	0.69%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.78%	0.69%	3.47%
04	0	284	82	1	20	6	0	0	1	0	0	0	0	0	394	27	1	28
	0.00%	72.08%	20.81%	0.25%	5.08%	1.52%	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.85%	0.25%	7.11%
05	2	590	120	2	32	2	0	0	1	0	0	0	0	0	749	36	1	37
	0.27%	78.77%	16.02%	0.27%	4.27%	0.27%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.81%	0.13%	4.94%
06	1	866	134	2	46	0	0	0	0	0	0	0	0	0	1,049	48	0	48
	0.10%	82.55%	12.77%	0.19%	4.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.58%	0.00%	4.58%
07	4	833	111	4	49	4	0	2	3	0	0	0	0	0	1,010	57	5	62
	0.40%	82.48%	10.99%	0.40%	4.85%	0.40%	0.00%	0.20%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.64%	0.50%	6.14%
08	0	774	162	2	28	3	0	4	2	1	0	0	0	0	976	33	7	40
	0.00%	79.30%	16.60%	0.20%	2.87%	0.31%	0.00%	0.41%	0.20%	0.10%	0.00%	0.00%	0.00%	0.00%	100.00	3.38%	0.72%	4.10%
09	2	730	124	1	18	5	1	0	5	0	0	0	0	0	886	25	5	30
	0.23%	82.39%	14.00%	0.11%	2.03%	0.56%	0.11%	0.00%	0.56%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.82%	0.56%	3.39%
Total	9	4,381	780	13	200	22	1	6	15	1	0	0	0	0	5,428	236	22	258
	0.17%	80.71%	14.37%	0.24%	3.68%	0.41%	0.02%	0.11%	0.28%	0.02%	0.00%	0.00%	0.00%	0.00%	100.00	4.35%	0.41%	4.75%
Total Count	9	4,381	780	13	200	22	1	6	15	1	0	0	0	0	5,428	236	22	258
	0.17%	80.71%	14.37%	0.24%	3.68%	0.41%	0.02%	0.11%	0.28%	0.02%	0.00%	0.00%	0.00%	0.00%	100.00	4.35%	0.41%	4.75%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 14, 2019 North

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
10	0	380	58	1	9	1	0	0	2	0	0	0	0	0	451	11	2	13
	0.00%	84.26%	12.86%	0.22%	2.00%	0.22%	0.00%	0.00%	0.44%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.44%	0.44%	2.88%
11	0	401	68	0	12	2	1	2	2	0	0	0	0	0	488	15	4	19
	0.00%	82.17%	13.93%	0.00%	2.46%	0.41%	0.20%	0.41%	0.41%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.07%	0.82%	3.89%
12	0	434	67	0	10	3	1	1	3	0	0	0	0	0	519	14	4	18
	0.00%	83.62%	12.91%	0.00%	1.93%	0.58%	0.19%	0.19%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.70%	0.77%	3.47%
13	0	431	62	1	18	3	0	1	0	0	0	0	0	0	516	22	1	23
	0.00%	83.53%	12.02%	0.19%	3.49%	0.58%	0.00%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.26%	0.19%	4.46%
14	0	423	83	1	19	0	0	0	4	0	0	0	0	0	530	20	4	24
	0.00%	79.81%	15.66%	0.19%	3.58%	0.00%	0.00%	0.00%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.77%	0.75%	4.53%
15	0	533	64	0	14	1	0	0	0	0	0	0	0	0	612	15	0	15
	0.00%	87.09%	10.46%	0.00%	2.29%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.45%	0.00%	2.45%
16	0	510	53	0	13	0	0	1	0	0	0	0	0	0	577	13	1	14
	0.00%	88.39%	9.19%	0.00%	2.25%	0.00%	0.00%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.25%	0.17%	2.43%
17	0	455	63	1	4	0	0	0	2	0	0	0	0	0	525	5	2	7
	0.00%	86.67%	12.00%	0.19%	0.76%	0.00%	0.00%	0.00%	0.38%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.95%	0.38%	1.33%
18	0	357	49	0	2	0	0	0	0	0	0	0	0	0	408	2	0	2
	0.00%	87.50%	12.01%	0.00%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.49%	0.00%	0.49%
19	0	272	25	0	3	0	0	0	0	0	0	0	0	0	300	3	0	3
	0.00%	90.67%	8.33%	0.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.00%	0.00%	1.00%
20	0	234	18	0	4	0	0	0	0	0	0	0	0	0	256	4	0	4
	0.00%	91.41%	7.03%	0.00%	1.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.56%	0.00%	1.56%
21	0	150	12	0	0	0	0	0	0	0	0	0	0	0	162	0	0	0
	0.00%	92.59%	7.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
22	0	98	6	0	1	0	0	0	0	0	0	0	0	0	105	1	0	1
	0.00%	93.33%	5.71%	0.00%	0.95%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.95%	0.00%	0.95%
23	0	49	6	0	1	0	0	0	0	0	0	0	0	0	56	1	0	1
	0.00%	87.50%	10.71%	0.00%	1.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.79%	0.00%	1.79%
Total	0	4,727	634	4	110	10	2	5	13	0	0	0	0	0	5,505	126	18	144
	0.00%	85.87%	11.52%	0.07%	2.00%	0.18%	0.04%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.29%	0.33%	2.62%
Total Count	0	4,727	634	4	110	10	2	5	13	0	0	0	0	0	5,505	126	18	144
	0.00%	85.87%	11.52%	0.07%	2.00%	0.18%	0.04%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.29%	0.33%	2.62%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 15, 2019 North

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	29	4	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0
	0.00%	87.88%	12.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
01	0	19	2	0	1	0	0	0	1	0	0	0	0	0	23	1	1	2
	0.00%	82.61%	8.70%	0.00%	4.35%	0.00%	0.00%	0.00%	4.35%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.35%	4.35%	8.70%
02	0	23	2	0	1	0	0	0	1	0	0	0	0	0	27	1	1	2
	0.00%	85.19%	7.41%	0.00%	3.70%	0.00%	0.00%	0.00%	3.70%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.70%	3.70%	7.41%
03	1	89	17	0	0	1	0	0	0	0	0	0	0	0	108	1	0	1
	0.93%	82.41%	15.74%	0.00%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.93%	0.00%	0.93%
04	0	192	53	2	12	0	0	0	1	0	0	0	0	0	260	14	1	15
	0.00%	73.85%	20.38%	0.77%	4.62%	0.00%	0.00%	0.00%	0.38%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.38%	0.38%	5.77%
05	3	368	70	1	15	1	0	0	0	0	0	0	0	0	458	17	0	17
	0.66%	80.35%	15.28%	0.22%	3.28%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.71%	0.00%	3.71%
06	0	482	76	2	25	2	0	0	2	0	0	0	0	0	589	29	2	31
	0.00%	81.83%	12.90%	0.34%	4.24%	0.34%	0.00%	0.00%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.92%	0.34%	5.26%
07	2	455	80	1	19	3	0	0	2	0	0	0	0	0	562	23	2	25
	0.36%	80.96%	14.23%	0.18%	3.38%	0.53%	0.00%	0.00%	0.36%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.09%	0.36%	4.45%
08	1	395	73	3	10	12	0	0	2	0	0	0	0	0	496	25	2	27
	0.20%	79.64%	14.72%	0.60%	2.02%	2.42%	0.00%	0.00%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.04%	0.40%	5.44%
09	0	388	56	1	18	3	0	0	2	0	0	0	0	0	468	22	2	24
	0.00%	82.91%	11.97%	0.21%	3.85%	0.64%	0.00%	0.00%	0.43%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.70%	0.43%	5.13%
10	0	379	76	0	14	4	0	0	1	0	0	0	0	0	474	18	1	19
	0.00%	79.96%	16.03%	0.00%	2.95%	0.84%	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.80%	0.21%	4.01%
11	1	417	76	3	15	1	0	0	1	0	0	0	0	0	514	19	1	20
	0.19%	81.13%	14.79%	0.58%	2.92%	0.19%	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.70%	0.19%	3.89%
12	2	369	77	0	12	2	1	2	1	0	0	0	0	0	466	15	3	18
	0.43%	79.18%	16.52%	0.00%	2.58%	0.43%	0.21%	0.43%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.22%	0.64%	3.86%
13	0	409	58	1	18	0	0	1	2	0	0	0	0	0	489	19	3	22
	0.00%	83.64%	11.86%	0.20%	3.68%	0.00%	0.00%	0.20%	0.41%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.89%	0.61%	4.50%
14	2	446	75	0	19	2	0	1	1	0	0	0	0	0	546	21	2	23
	0.37%	81.68%	13.74%	0.00%	3.48%	0.37%	0.00%	0.18%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.85%	0.37%	4.21%
15	1	526	77	0	13	2	0	2	4	0	0	0	0	0	625	15	6	21
	0.16%	84.16%	12.32%	0.00%	2.08%	0.32%	0.00%	0.32%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.40%	0.96%	3.36%
16	3	552	64	2	7	0	0	0	0	0	0	0	0	0	628	9	0	9
	0.48%	87.90%	10.19%	0.32%	1.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.43%	0.00%	1.43%
17	2	544	56	1	11	0	0	0	2	0	0	0	0	1	617	12	2	14
	0.32%	88.17%	9.08%	0.16%	1.78%	0.00%	0.00%	0.00%	0.32%	0.00%	0.00%	0.00%	0.00%	0.16%	100.00	1.94%	0.32%	2.27%
18	2	424	52	1	4	0	0	1	0	0	0	0	0	0	484	5	1	6
	0.41%	87.60%	10.74%	0.21%	0.83%	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.03%	0.21%	1.24%
19	0	323	30	0	2	0	0	1	0	0	0	0	0	0	356	2	1	3
	0.00%	90.73%	8.43%	0.00%	0.56%	0.00%	0.00%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.56%	0.28%	0.84%
20	1	279	35	0	3	0	0	0	0	0	0	0	0	0	318	3	0	3
	0.31%	87.74%	11.01%	0.00%	0.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.94%	0.00%	0.94%
21	0	156	11	0	0	0	0	0	0	0	0	0	0	0	167	0	0	0
	0.00%	93.41%	6.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
22	1	99	10	0	0	0	0	0	0	0	0	0	0	0	110	0	0	0
	0.91%	90.00%	9.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
23	0	68	1	1	0	0	0	0	0	0	0	0	0	0	70	1	0	1
	0.00%	97.14%	1.43%	1.43%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.43%	0.00%	1.43%
Total	22	7,431	1,131	19	219	33	1	8	23	0	0	0	0	1	8,888	272	31	303
	0.25%	83.61%	12.73%	0.21%	2.46%	0.37%	0.01%	0.09%	0.26%	0.00%	0.00%	0.00%	0.00%	0.01%	100.00	3.06%	0.35%	3.41%
Total Count	22	7,431	1,131	19	219	33	1	8	23	0	0	0	0	1	8,888	272	31	303
	0.25%	83.61%	12.73%	0.21%	2.46%	0.37%	0.01%	0.09%	0.26%	0.00%	0.00%	0.00%	0.00%	0.01%	100.00	3.06%	0.35%	3.41%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 16, 2019 North

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	33	3	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0
	0.00%	91.67%	8.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
01	0	35	2	0	1	0	0	0	1	0	0	0	0	0	39	1	1	2
	0.00%	89.74%	5.13%	0.00%	2.56%	0.00%	0.00%	0.00%	2.56%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.56%	2.56%	5.13%
02	0	24	4	0	1	0	0	0	1	0	0	0	0	0	30	1	1	2
	0.00%	80.00%	13.33%	0.00%	3.33%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.33%	3.33%	6.67%
03	0	79	14	0	0	1	0	0	1	0	0	0	0	0	95	1	1	2
	0.00%	83.16%	14.74%	0.00%	0.00%	1.05%	0.00%	0.00%	1.05%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.05%	1.05%	2.11%
04	0	179	57	1	15	5	0	0	1	0	0	0	0	0	258	21	1	22
	0.00%	69.38%	22.09%	0.39%	5.81%	1.94%	0.00%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	8.14%	0.39%	8.53%
05	2	381	73	1	19	2	0	0	1	0	0	0	0	0	479	22	1	23
	0.42%	79.54%	15.24%	0.21%	3.97%	0.42%	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.59%	0.21%	4.80%
06	0	515	71	1	26	0	0	0	0	0	0	0	0	0	613	27	0	27
	0.00%	84.01%	11.58%	0.16%	4.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.40%	0.00%	4.40%
07	1	494	60	2	24	1	0	2	2	0	0	0	0	0	586	27	4	31
	0.17%	84.30%	10.24%	0.34%	4.10%	0.17%	0.00%	0.34%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.61%	0.68%	5.29%
08	0	431	85	1	17	2	0	3	1	1	0	0	0	0	541	20	5	25
	0.00%	79.67%	15.71%	0.18%	3.14%	0.37%	0.00%	0.55%	0.18%	0.18%	0.00%	0.00%	0.00%	0.00%	100.00	3.70%	0.92%	4.62%
09	1	389	64	1	8	2	1	0	2	0	0	0	0	0	468	12	2	14
	0.21%	83.12%	13.68%	0.21%	1.71%	0.43%	0.21%	0.00%	0.43%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.56%	0.43%	2.99%
Total	4	2,560	433	7	111	13	1	5	10	1	0	0	0	0	3,145	132	16	148
	0.13%	81.40%	13.77%	0.22%	3.53%	0.41%	0.03%	0.16%	0.32%	0.03%	0.00%	0.00%	0.00%	0.00%	100.00	4.20%	0.51%	4.71%
Total Count	4	2,560	433	7	111	13	1	5	10	1	0	0	0	0	3,145	132	16	148
	0.13%	81.40%	13.77%	0.22%	3.53%	0.41%	0.03%	0.16%	0.32%	0.03%	0.00%	0.00%	0.00%	0.00%	100.00	4.20%	0.51%	4.71%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 14, 2019 South

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
10	0	324	80	0	19	2	0	3	1	0	0	0	0	0	429	21	4	25
	0.00%	75.52%	18.65%	0.00%	4.43%	0.47%	0.00%	0.70%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.90%	0.93%	5.83%
11	2	400	89	0	10	4	0	1	1	0	0	0	0	0	507	14	2	16
	0.39%	78.90%	17.55%	0.00%	1.97%	0.79%	0.00%	0.20%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.76%	0.39%	3.16%
12	4	401	64	1	18	6	0	0	3	0	0	0	0	0	497	25	3	28
	0.80%	80.68%	12.88%	0.20%	3.62%	1.21%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.03%	0.60%	5.63%
13	3	502	92	2	26	1	0	1	2	0	0	0	0	0	629	29	3	32
	0.48%	79.81%	14.63%	0.32%	4.13%	0.16%	0.00%	0.16%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.61%	0.48%	5.09%
14	5	573	110	2	37	0	0	0	2	0	0	0	0	0	729	39	2	41
	0.69%	78.60%	15.09%	0.27%	5.08%	0.00%	0.00%	0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.35%	0.27%	5.62%
15	4	567	91	0	18	0	0	0	2	0	0	0	0	1	683	18	2	20
	0.59%	83.02%	13.32%	0.00%	2.64%	0.00%	0.00%	0.00%	0.29%	0.00%	0.00%	0.00%	0.00%	0.15%	100.00	2.64%	0.29%	2.93%
16	8	658	81	0	11	0	0	0	3	0	0	0	0	0	761	11	3	14
	1.05%	86.47%	10.64%	0.00%	1.45%	0.00%	0.00%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.45%	0.39%	1.84%
17	5	701	78	0	9	0	0	0	0	0	0	0	0	0	793	9	0	9
	0.63%	88.40%	9.84%	0.00%	1.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.13%	0.00%	1.13%
18	1	589	98	0	7	0	0	0	0	0	0	0	0	0	695	7	0	7
	0.14%	84.75%	14.10%	0.00%	1.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.01%	0.00%	1.01%
19	5	433	46	0	3	0	0	0	1	0	0	0	0	0	488	3	1	4
	1.02%	88.73%	9.43%	0.00%	0.61%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.61%	0.20%	0.82%
20	0	330	45	1	3	0	0	0	0	0	0	0	0	3	382	4	0	4
	0.00%	86.39%	11.78%	0.26%	0.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.79%	100.00	1.05%	0.00%	1.05%
21	0	260	28	0	3	0	0	0	0	0	0	0	0	0	291	3	0	3
	0.00%	89.35%	9.62%	0.00%	1.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.03%	0.00%	1.03%
22	0	132	13	0	5	0	0	0	0	0	0	0	0	0	150	5	0	5
	0.00%	88.00%	8.67%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.33%	0.00%	3.33%
23	0	43	6	0	1	0	0	1	0	0	0	0	0	0	51	1	1	2
	0.00%	84.31%	11.76%	0.00%	1.96%	0.00%	0.00%	1.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.96%	1.96%	3.92%
Total	37	5,913	921	6	170	13	0	6	15	0	0	0	0	4	7,085	189	21	210
	0.52%	83.46%	13.00%	0.08%	2.40%	0.18%	0.00%	0.08%	0.21%	0.00%	0.00%	0.00%	0.00%	0.06%	100.00	2.67%	0.30%	2.96%
Total Count	37	5,913	921	6	170	13	0	6	15	0	0	0	0	4	7,085	189	21	210
	0.52%	83.46%	13.00%	0.08%	2.40%	0.18%	0.00%	0.08%	0.21%	0.00%	0.00%	0.00%	0.00%	0.06%	100.00	2.67%	0.30%	2.96%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 15, 2019 South

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0	35	9	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0
	0.00%	79.55%	20.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.00%	0.00%	0.00%
01	0	25	4	0	1	0	0	0	0	0	0	0	0	0	30	1	0	1
	0.00%	83.33%	13.33%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.33%	0.00%	3.33%
02	0	12	5	0	2	0	0	0	0	0	0	0	0	0	19	2	0	2
	0.00%	63.16%	26.32%	0.00%	10.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	10.53%	0.00%	10.53%
03	0	25	7	0	2	0	0	0	0	0	0	0	0	0	34	2	0	2
	0.00%	73.53%	20.59%	0.00%	5.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.88%	0.00%	5.88%
04	0	96	23	0	4	1	0	0	1	0	0	0	0	0	125	5	1	6
	0.00%	76.80%	18.40%	0.00%	3.20%	0.80%	0.00%	0.00%	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.00%	0.80%	4.80%
05	0	202	45	1	18	2	0	0	2	0	0	0	0	0	270	21	2	23
	0.00%	74.81%	16.67%	0.37%	6.67%	0.74%	0.00%	0.00%	0.74%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	7.78%	0.74%	8.52%
06	1	337	61	4	22	4	0	0	3	0	0	0	0	0	432	30	3	33
	0.23%	78.01%	14.12%	0.93%	5.09%	0.93%	0.00%	0.00%	0.69%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.94%	0.69%	7.64%
07	0	344	71	4	20	3	0	0	1	0	0	0	0	0	443	27	1	28
	0.00%	77.65%	16.03%	0.90%	4.51%	0.68%	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.09%	0.23%	6.32%
08	1	391	68	2	19	5	0	0	3	0	0	0	0	0	489	26	3	29
	0.20%	79.96%	13.91%	0.41%	3.89%	1.02%	0.00%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.32%	0.61%	5.93%
09	0	325	77	2	17	6	1	0	5	0	0	0	0	0	433	26	5	31
	0.00%	75.06%	17.78%	0.46%	3.93%	1.39%	0.23%	0.00%	1.15%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.00%	1.15%	7.16%
10	0	444	75	0	23	7	0	1	5	0	0	0	0	0	555	30	6	36
	0.00%	80.00%	13.51%	0.00%	4.14%	1.26%	0.00%	0.18%	0.90%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	5.41%	1.08%	6.49%
11	0	452	64	0	15	3	0	1	4	0	0	0	0	0	539	18	5	23
	0.00%	83.86%	11.87%	0.00%	2.78%	0.56%	0.00%	0.19%	0.74%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.34%	0.93%	4.27%
12	0	385	73	0	22	0	0	1	2	0	0	0	0	0	483	22	3	25
	0.00%	79.71%	15.11%	0.00%	4.55%	0.00%	0.00%	0.21%	0.41%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.55%	0.62%	5.18%
13	0	523	92	2	27	3	0	1	1	0	0	0	0	0	649	32	2	34
	0.00%	80.59%	14.18%	0.31%	4.16%	0.46%	0.00%	0.15%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	4.93%	0.31%	5.24%
14	5	578	107	2	39	5	0	0	2	0	0	0	0	0	738	46	2	48
	0.68%	78.32%	14.50%	0.27%	5.28%	0.68%	0.00%	0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	6.23%	0.27%	6.50%
15	1	594	104	2	19	1	0	0	4	0	0	0	0	0	725	22	4	26
	0.14%	81.93%	14.34%	0.28%	2.62%	0.14%	0.00%	0.00%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	3.03%	0.55%	3.59%
16	2	658	83	1	10	0	0	1	0	0	0	0	0	1	756	11	1	12
	0.26%	87.04%	10.98%	0.13%	1.32%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	100.00	1.46%	0.13%	1.59%
17	6	630	83	0	10	0	0	1	2	0	0	0	0	2	734	10	3	13
	0.82%	85.83%	11.31%	0.00%	1.36%	0.00%	0.00%	0.14%	0.27%	0.00%	0.00%	0.00%	0.00%	0.27%	100.00	1.36%	0.41%	1.77%
18	4	568	59	0	7	1	0	1	1	0	0	0	0	0	641	8	2	10
	0.62%	88.61%	9.20%	0.00%	1.09%	0.16%	0.00%	0.16%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.25%	0.31%	1.56%
19	2	460	43	0	2	0	0	0	1	0	0	0	0	0	508	2	1	3
	0.39%	90.55%	8.46%	0.00%	0.39%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	0.39%	0.20%	0.59%
20	2	329	32	0	5	0	0	0	0	0	0	0	0	0	368	5	0	5
	0.54%	89.40%	8.70%	0.00%	1.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.36%	0.00%	1.36%
21	0	236	28	1	0	0	0	0	1	0	0	0	0	1	267	1	1	2
	0.00%	88.39%	10.49%	0.37%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.00%	0.37%	100.00	0.37%	0.37%	0.75%
22	2	125	11	0	2	0	0	0	0	0	0	0	0	0	140	2	0	2
	1.43%	89.29%	7.86%	0.00%	1.43%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	1.43%	0.00%	1.43%
23	1	57	10	0	1	1	0	1	0	0	0	0	0	0	71	2	1	3
	1.41%	80.28%	14.08%	0.00%	1.41%	1.41%	0.00%	1.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00	2.82%	1.41%	4.23%
Total	27	7,831	1,234	21	287	42	1	8	38	0	0	0	0	4	9,493	351	46	397
	0.28%	82.49%	13.00%	0.22%	3.02%	0.44%	0.01%	0.08%	0.40%	0.00%	0.00%	0.00%	0.00%	0.04%	100.00	3.70%	0.48%	4.18%
Total Count	27	7,831	1,234	21	287	42	1	8	38	0	0	0	0	4	9,493	351	46	397
	0.28%	82.49%	13.00%	0.22%	3.02%	0.44%	0.01%	0.08%	0.40%	0.00%	0.00%	0.00%	0.00%	0.04%	100.00	3.70%	0.48%	4.18%

New Jersey Department of Transportation

Hourly Classification Count and Percent Distribution

May 16, 2019 South

Site names:	4-3-022	Seasonal Factor Grp:	rg4_4U
County:	MIDDLESEX	Daily Factor Grp:	rg4_4U
Funct Class:	Urban Minor Arterial	Axle Factor Grp:	rg4_4U
Location:	Between Deerfield Road and Parlin Drive	Growth Factor Grp:	rg4_4U

	MC	CAR	PU	BUS	2D	SU 3	SU 4+	ST 4-	ST 5	ST 6+	MT 5-	MT 6	MT 7+	UNCLS	Total	Single	Combo	Trucks
00	0 0.00%	39 76.47%	12 23.53%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	51 100.00	0 0.00%	0 0.00%	0 0.00%
01	0 0.00%	36 92.31%	1 2.56%	0 0.00%	2 5.13%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	39 100.00	2 5.13%	0 0.00%	2 5.13%
02	0 0.00%	21 84.00%	2 8.00%	1 4.00%	0 0.00%	1 4.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	25 100.00	2 8.00%	0 0.00%	2 8.00%
03	0 0.00%	37 75.51%	9 18.37%	0 0.00%	3 6.12%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	49 100.00	3 6.12%	0 0.00%	3 6.12%
04	0 0.00%	105 77.21%	25 18.38%	0 0.00%	5 3.68%	1 0.74%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	136 100.00	6 4.41%	0 0.00%	6 4.41%
05	0 0.00%	209 77.41%	47 17.41%	1 0.37%	13 4.81%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	270 100.00	14 5.19%	0 0.00%	14 5.19%
06	1 0.23%	351 80.50%	63 14.45%	1 0.23%	20 4.59%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	436 100.00	21 4.82%	0 0.00%	21 4.82%
07	3 0.71%	339 79.95%	51 12.03%	2 0.47%	25 5.90%	3 0.71%	0 0.00%	0 0.00%	1 0.24%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	424 100.00	30 7.08%	1 0.24%	31 7.31%
08	0 0.00%	343 78.85%	77 17.70%	1 0.23%	11 2.53%	1 0.23%	0 0.00%	1 0.23%	1 0.23%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	435 100.00	13 2.99%	2 0.46%	15 3.45%
09	1 0.24%	341 81.58%	60 14.35%	0 0.00%	10 2.39%	3 0.72%	0 0.00%	0 0.00%	3 0.72%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	418 100.00	13 3.11%	3 0.72%	16 3.83%
Total	5 0.22%	1,821 79.76%	347 15.20%	6 0.26%	89 3.90%	9 0.39%	0 0.00%	1 0.04%	5 0.22%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2,283 100.00	104 4.56%	6 0.26%	110 4.82%
Total Count	5 0.22%	1,821 79.76%	347 15.20%	6 0.26%	89 3.90%	9 0.39%	0 0.00%	1 0.04%	5 0.22%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2,283 100.00	104 4.56%	6 0.26%	110 4.82%

New Jersey Department of Transportation

Count Class Distribution for 05/14/2019 through 05/16/2019

Site names: 4-3-022
County: MIDDLESEX
Funct Class: Urban Minor Arterial
Location: Between Deerfield Road and Parlin Drive

Seasonal Factor Grp: rg4_4U
Daily Factor Grp: rg4_4U
Axle Factor Grp: rg4_4U
Growth Factor Grp: rg4_4U

	Road	N	S
MC	95 .26%	26 .15%	69 .37%
CAR	30,283 83.20%	14,718 83.92%	15,565 82.52%
PU	4,700 12.91%	2,198 12.53%	2,502 13.27%
BUS	63 .17%	30 .17%	33 .17%
2D	986 2.71%	440 2.51%	546 2.89%
SU 3	120 .33%	56 .32%	64 .34%
SU 4+	5 .01%	4 .02%	1 .01%
ST 4-	33 .09%	18 .10%	15 .08%
ST 5	104 .29%	46 .26%	58 .31%
ST 6+	1 .00%	1 .01%	0 .00%
MT 5-	0 .00%	0 .00%	0 .00%
MT 6	0 .00%	0 .00%	0 .00%
MT 7+	0 .00%	0 .00%	0 .00%
UNCLS	9 .02%	1 .01%	8 .04%
Trucks	1,312 3.60%	595 3.39%	717 3.80%
Combo Trucks	138 .38%	65 .37%	73 .39%
Classified	36,390 99.98%	17,537 99.99%	18,853 99.96%
Volume	36,399 100.00%	17,538 100.00%	18,861 100.00%

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 09/20/2017 to 09/28/2017

Site names: 111273,Ernston Road-.51,12000673__
County: MIDDLESEX
Funct Class: Urban Minor Arterial
Location: BET PINETREE DR AND SINGER CT

Seasonal Factor Grp: rg4_4U
Daily Factor Grp: rg4_4U
Axle Factor Grp: rg4_4U
Growth Factor Grp: rg4_4U

	Sun, Sep 17, 2017			Mon, Sep 18, 2017			Tue, Sep 19, 2017			Wed, Sep 20, 2017			Thu, Sep 21, 2017			Fri, Sep 22, 2017			Sat, Sep 23, 2017		
	Road	E	W	Road	E	W	Road	E	W	Road	E	W	Road	E	W	Road	E	W	Road	E	W
00:00										107	55	52	137	66	71	159	75	84	241	115	126
01:00										65	26	39	77	40	37	62	31	31	135	56	79
02:00										62	24	38	73	34	39	69	35	34	98	42	56
03:00										38	19	19	41	23	18	43	22	21	54	27	27
04:00										114	63	51	108	54	54	98	56	42	64	44	20
05:00										280	150	130	267	125	142	262	118	144	114	54	60
06:00										721	332	389	590	265	325	661	301	360	270	131	139
07:00										1,237	565	672	795	387	408	1,205	539	666	508	263	245
08:00										1,131	594	537	876	420	456	1,156	619	537	819	426	393
09:00										1,010	534	476	959	517	442	1,056	567	489	1,134	591	543
10:00										951	497	454	1,002	530	472	1,060	534	526	1,337	694	643
11:00										987	498	489	1,145	599	546	1,144	614	530	1,438	755	683
12:00										1,112	578	534	1,191	633	558	1,166	632	534	1,504	776	728
13:00										1,122	565	557	1,223	620	603	1,161	601	560	1,420	698	722
14:00										1,327	700	627	1,114	560	554	1,402	731	671	1,316	690	626
15:00										1,417	788	629	1,163	592	571	1,503	792	711	1,294	665	629
16:00										1,377	706	671	1,333	671	662	1,460	748	712	1,271	661	610
17:00										1,547	781	766	1,387	719	668	1,471	780	691	1,164	622	542
18:00										1,467	780	687	1,387	697	690	1,377	711	666	1,182	589	593
19:00										1,403	771	632	1,282	675	607	1,411	769	642	1,043	529	514
20:00										923	479	444	977	484	493	915	482	433	824	380	444
21:00										740	395	345	660	304	356	703	370	333	738	387	351
22:00										452	227	225	415	204	211	586	300	286	623	298	325
23:00										256	119	137	233	107	126	397	182	215	382	166	216
Total										19,846	10,246	9,600	18,435	9,326	9,109	20,527	10,609	9,918	18,973	9,659	9,314
AM Peak Vol										1,237	628	672	1,145	615	546	1,205	619	666	1,438	755	683
AM Peak Fct										.866	.844	.771	.954	.904	.916	.924	.819	.845	.949	.934	.959
AM Peak Hr										7: 00	7: 30	7: 00	11: 00	10: 45	11: 00	7: 00	8: 00	7: 00	11: 00	11: 00	11: 00
PM Peak Vol										1,547	803	768	1,457	731	730	1,503	792	727	1,504	776	735
PM Peak Fct										.923	.934	.928	.954	.909	.926	.959	.952	.962	.935	.898	.952
PM Peak Hr										17: 00	18: 45	17: 15	17: 45	17: 15	17: 30	15: 00	15: 00	17: 15	12: 00	12: 00	12: 15
Seasonal Fct										.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962
Daily Fct										1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Axle Fct										.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495
Pulse Fct										2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 09/20/2017 to 09/28/2017

Site names: 111273,Ernston Road-.51,12000673__
County: MIDDLESEX
Funct Class: Urban Minor Arterial
Location: BET PINETREE DR AND SINGER CT

Seasonal Factor Grp: rg4_4U
Daily Factor Grp: rg4_4U
Axle Factor Grp: rg4_4U
Growth Factor Grp: rg4_4U

	Sun, Sep 24, 2017			Mon, Sep 25, 2017			Tue, Sep 26, 2017			Wed, Sep 27, 2017			Thu, Sep 28, 2017			Fri, Sep 29, 2017			Sat, Sep 30, 2017		
	Road	E	W	Road	E	W	Road	E	W	Road	E	W	Road	E	W	Road	E	W	Road	E	W
00:00	279	131	148	93	48	45	110	56	54	125	67	58	145	68	77						
01:00	199	63	136	70	37	33	58	23	35	55	25	30	69	29	40						
02:00	93	39	54	35	11	24	46	18	28	38	19	19	57	33	24						
03:00	61	27	34	41	22	19	54	28	26	50	28	22	49	25	24						
04:00	49	27	22	126	71	55	112	59	53	119	68	51	115	60	55						
05:00	97	55	42	263	121	142	270	134	136	290	151	139	309	148	161						
06:00	162	80	82	729	326	403	703	324	379	720	310	410	688	315	373						
07:00	349	191	158	1,223	553	670	1,226	581	645	1,186	537	649	1,254	568	686						
08:00	599	332	267	1,194	615	579	1,142	593	549	1,148	586	562	1,175	604	571						
09:00	876	482	394	996	522	474	1,043	536	507	988	523	465	998	550	448						
10:00	1,118	596	522	1,065	555	510	896	475	421	974	527	447	1,007	535	472						
11:00	1,253	651	602	1,064	547	517	990	513	477	993	542	451	1,070	548	522						
12:00	1,237	627	610	1,114	587	527	962	469	493	1,001	524	477	1,122	558	564						
13:00	1,248	657	591	1,089	547	542	1,013	495	518	960	532	428	1,134	577	557						
14:00	1,214	597	617	1,369	731	638	1,303	711	592	1,145	595	550	1,392	786	606						
15:00	1,129	574	555	1,419	731	688	1,322	670	652	1,184	610	574	1,389	745	644						
16:00	1,189	616	573	1,490	781	709	1,441	745	696	1,169	552	617	1,361	706	655						
17:00	1,144	566	578	1,473	795	678	1,460	761	699	1,161	556	605	1,477	759	718						
18:00	1,175	595	580	1,462	729	733	1,536	727	809	1,231	540	691	1,486	745	741						
19:00	1,045	487	558	1,395	762	633	1,308	726	582	1,304	663	641	1,345	729	616						
20:00	823	411	412	875	423	452	974	517	457	941	486	455	1,072	578	494						
21:00	530	263	267	757	337	420	782	493	289	870	542	328	688	346	342						
22:00	306	146	160	383	181	202	388	193	195	408	207	201	434	212	222						
23:00	181	77	104	213	116	97	239	118	121	217	105	112	226	105	121						
Total	16,356	8,290	8,066	19,938	10,148	9,790	19,378	9,965	9,413	18,277	9,295	8,982	20,062	10,329	9,733						
AM Peak Vol	1,253	663	602	1,223	615	670	1,227	643	645	1,186	605	649	1,254	641	686						
AM Peak Fct	.932	.947	.865	.874	.973	.761	.905	.924	.853	.941	.831	.815	.971	.905	.907						
AM Peak Hr	11: 00	10: 45	11: 00	7: 00	8: 00	7: 00	7: 15	7: 30	7: 00	7: 00	7: 15	7: 00	7: 00	7: 30	7: 00						
PM Peak Vol	1,275	659	617	1,545	831	733	1,564	776	809	1,392	667	751	1,506	822	741						
PM Peak Fct	.96	.9	.918	.931	.975	.903	.97	.928	.95	.899	.851	.886	.98	.93	.922						
PM Peak Hr	13: 30	13: 30	14: 00	17: 15	17: 15	18: 00	17: 30	17: 30	18: 00	18: 30	18: 45	18: 30	18: 15	14: 15	18: 00						
Seasonal Fct	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962	.962						
Daily Fct	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
Axle Fct	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495	.495						
Pulse Fct	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

Appendix C

Crash Diagram and Summary Table



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# PDO	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (1 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE
TOWNSHIP OF OLD BRIDGE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-3



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# PDO	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (2 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE
TOWNSHIP OF OLD BRIDGE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-4

MATCH LINE SHEET B-6



MATCH LINE SHEET B-4

LEGEND	SYMBOLS	TYPES OF COLLISIONS
# PDO	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (3 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE
TOWNSHIP OF OLD BRIDGE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-5

MATCH LINE SHEET B-7



MATCH LINE SHEET B-5

LEGEND	SYMBOLS	TYPES OF COLLISIONS
# PDO	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (4 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE
TOWNSHIP OF OLD BRIDGE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-6



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# PDO	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (5 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-7



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# PDO	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (6 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-8



LEGEND	SYMBOLS	TYPES OF COLLISIONS	
# PDO	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (7 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-9

MATCH LINE SHEET B-11



MATCH LINE SHEET B-9

LEGEND	SYMBOLS	TYPES OF COLLISIONS	
# PDO	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (8 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-10



SYMBOLS		TYPES OF COLLISIONS	
# PDO	Parked Vehicle	Same Direction Side Swipe	Moving Vehicle
# INJURY	Backing Vehicle	Opposite Direction Side Swipe	Out Of Control
# FATAL or SERIOUS INJURY	Cyclist	Left Turn	E Encroachment
SIGNALIZED INTERSECTION	Pedestrian	Right Angle	Head On
	Fixed Object		Rear End
	Non-Fixed Object		
	Animal		

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (9 OF 9)

CR 673 ERNSTON ROAD
BOROUGH OF SAYERVILLE

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-11

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
2012763	07/19/21	6:18 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
19008226	05/10/19	9:00 AM	Pedalcyclist	Suspected Minor Injury	Daylight	Dry
21001107	01/22/21	9:20 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21001303	01/26/21	3:36 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Wet
21001670	02/02/21	1:38 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Wet
21001861	02/05/21	6:52 PM	Backing	No Apparent Injury	Dark - Lighted	Dry
21001939	02/07/21	9:21 AM	Other	No Apparent Injury	Daylight	Snowy
21002092	02/09/21	6:42 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21002693	02/20/21	11:45 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21003046	02/25/21	1:06 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21003070	02/25/21	4:54 PM	Pedestrian	No Apparent Injury	Daylight	Dry
21003977	03/11/21	6:45 PM	Right Angle	Possible Injury	Dark - Lighted	Dry
21004729	03/21/21	5:00 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21004921	03/23/21	5:12 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21005584	03/31/21	1:55 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21005589	03/31/21	4:09 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21005859	04/05/21	11:16 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21007138	04/24/21	12:44 PM	Right Angle	No Apparent Injury	Daylight	Dry
21007389	04/28/21	4:42 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21007655	05/01/21	2:50 PM	Right Angle	No Apparent Injury	Daylight	Dry
21007934	05/06/21	4:07 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21008196	05/10/21	6:40 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21008546	05/16/21	1:33 PM	Right Angle	No Apparent Injury	Daylight	Dry
21008639	05/18/21	7:05 AM	Right Angle	No Apparent Injury	Daylight	Dry
21008753	05/19/21	9:48 PM	Right Angle	Suspected Serious Injury	Dark - Lighted	Dry
21009663	06/01/21	2:57 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21009772	06/02/21	3:31 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21009867	06/03/21	6:01 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
21010011	06/05/21	9:18 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21010145	06/07/21	8:41 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
21010196	06/08/21	1:41 PM	Right Angle	Possible Injury	Daylight	Dry
21010619	06/15/21	6:17 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21011104	06/23/21	3:34 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21011341	06/26/21	7:07 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21011551	03/18/21	1:46 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21011673	07/01/21	5:26 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21011676	07/01/21	6:15 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21012239	07/10/21	4:16 PM	Right Angle	No Apparent Injury	Daylight	Dry
21012604	07/16/21	7:01 PM	Backing	No Apparent Injury	Daylight	Dry
21012903	07/22/21	8:34 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21013514	08/01/21	5:10 PM	Encroachment	Suspected Minor Injury	Daylight	Dry
21014224	08/13/21	8:00 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21014491	08/17/21	5:51 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21014890	08/23/21	3:11 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21015317	08/28/21	12:52 PM	Right Angle	Suspected Minor Injury	Daylight	Dry
21015869	09/03/21	5:30 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21016205	09/07/21	10:48 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21016372	09/09/21	2:35 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21016867	09/15/21	3:13 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21016874	09/15/21	4:11 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21017028	09/17/21	7:13 AM	Right Angle	No Apparent Injury	Daylight	Wet
21018411	10/01/21	9:15 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
21018693	04/30/21	5:02 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21018710	10/06/21	1:57 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21018997	10/10/21	1:57 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
21019834	10/22/21	9:28 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
21020866	11/08/21	10:39 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21021118	11/12/21	4:53 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21021123	11/12/21	5:35 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
21021364	11/16/21	5:44 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21022769	12/10/21	6:45 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21023088	12/16/21	8:07 AM	Backing	No Apparent Injury	Daylight	Dry
21023537	12/23/21	1:14 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21023561	12/23/21	6:33 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21023739	12/27/21	7:14 PM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
21023808	12/29/21	10:41 AM	Pedalcyclist	Possible Injury	Daylight	Wet
21023888	12/30/21	4:31 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21029485	06/30/21	6:16 PM	Right Angle	No Apparent Injury	Daylight	Dry
21029751	07/02/21	7:33 AM	Encroachment	No Apparent Injury	Daylight	Wet
21032959	07/19/21	5:16 PM	Right Angle	No Apparent Injury	Daylight	Dry
21040199	08/28/21	3:20 PM	Same Direction - Rear End	Possible Injury	Daylight	Wet
21053354	11/13/21	1:13 PM	Same Direction - Rear End	Possible Injury	Daylight	Wet
21055467	11/26/21	2:31 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22000196	01/04/22	3:20 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22000238	01/05/22	6:54 AM	Same Direction - Sideswipe	No Apparent Injury	Dawn	Icy
22000240	01/05/22	7:12 AM	Struck Parked Vehicle	No Apparent Injury	Daylight	Icy
22000244	01/05/22	7:21 AM	Fixed Object	No Apparent Injury	Daylight	Icy
22000260	01/05/22	8:39 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Icy
22000298	01/05/22	5:24 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
22000894	01/15/22	12:08 PM	Right Angle	No Apparent Injury	Daylight	Dry
22001066	01/18/22	7:37 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
22001175	01/19/22	3:06 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22001271	01/09/22	3:09 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22001360	01/22/22	12:01 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22001596	01/11/22	6:32 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
22001654	01/26/22	11:39 AM	Right Angle	No Apparent Injury	Daylight	Dry
22001697	01/27/22	7:32 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22001966	01/31/22	12:33 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22002071	02/01/22	7:02 PM	Right Angle	Suspected Minor Injury	Dark - Lighted	Icy
22002274	02/04/22	2:33 PM	Right Angle	No Apparent Injury	Daylight	Wet
22002589	02/09/22	3:28 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22002711	02/11/22	3:37 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22004164	03/05/22	12:24 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22004257	03/07/22	1:24 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Wet
22004418	03/09/22	4:54 PM	Same Direction - Sideswipe	No Apparent Injury	Dusk	Wet
22004655	03/12/22	11:13 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22004997	03/18/22	1:51 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22005183	03/20/22	10:35 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22005598	03/25/22	4:35 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22005686	03/26/22	7:35 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
22006051	03/31/22	8:33 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22006230	04/02/22	10:52 AM	Opposite Direction (Sideswipe)	No Apparent Injury	Daylight	Dry
22006466	04/05/22	8:07 AM	Right Angle	No Apparent Injury	Daylight	Dry
22006530	04/05/22	3:11 PM	Right Angle	No Apparent Injury	Daylight	Dry
22006556	04/05/22	6:04 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22006566	04/05/22	8:11 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22006669	04/07/22	5:26 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
22007285	04/15/22	1:57 PM	Right Angle	No Apparent Injury	Daylight	Dry
22007317	04/15/22	9:15 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
22007761	04/22/22	10:38 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22007785	04/22/22	4:09 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22008270	04/29/22	12:01 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22008293	04/29/22	5:30 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22008363	04/30/22	5:17 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22008726	05/06/22	2:35 PM	Right Angle	No Apparent Injury	Daylight	Dry
22008791	02/26/22	10:41 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22008873	05/08/22	4:37 PM	Pedalcyclist	Suspected Minor Injury	Daylight	Dry
22008967	05/09/22	4:49 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22009092	05/11/22	8:45 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22009210	05/12/22	9:20 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22009701	05/19/22	4:59 PM	Right Angle	No Apparent Injury	Daylight	Dry
22010194	05/25/22	7:11 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22010541	05/29/22	12:04 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22011431	06/10/22	2:14 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22011437	06/10/22	4:01 PM	Right Angle	Possible Injury	Daylight	Dry
22011738	06/14/22	2:18 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22011886	06/16/22	12:36 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22011903	06/16/22	6:00 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
22012113	06/20/22	1:02 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22012295	06/23/22	8:55 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22012409	06/25/22	9:40 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22012562	06/28/22	9:19 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
22013164	07/07/22	7:32 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22013168	07/07/22	9:02 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22014143	07/26/22	9:15 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22014187	07/26/22	9:14 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22014244	07/28/22	5:26 AM	Same Direction - Rear End	Possible Injury	Dawn	Wet
22014476	08/01/22	11:42 AM	Right Angle	Possible Injury	Daylight	Wet
22014794	08/06/22	3:59 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22015567	04/10/22	12:38 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22016080	08/27/22	3:43 PM	Fixed Object	No Apparent Injury	Daylight	Dry
22016134	08/28/22	1:42 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22016823	09/08/22	8:15 AM	Right Angle	No Apparent Injury	Daylight	Dry
22016925	09/09/22	2:29 PM	Right Angle	No Apparent Injury	Daylight	Dry
22017061	09/11/22	1:06 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Dry
22017232	09/13/22	7:11 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
22017613	09/19/22	5:17 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Wet
22018055	09/26/22	5:28 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22018304	09/29/22	8:22 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
22018362	09/30/22	2:55 PM	Right Angle	No Apparent Injury	Daylight	Dry
22018512	10/02/22	7:54 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
22018608	10/04/22	2:21 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22018830	10/07/22	2:16 PM	Right Angle	Possible Injury	Daylight	Dry
22019104	10/11/22	10:58 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22019431	05/04/22	6:04 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22019615	10/18/22	12:33 AM	Right Angle	No Apparent Injury	Dark - Lighted	Wet
22019625	10/18/22	8:13 AM	Right Angle	Possible Injury	Daylight	Dry
22019966	10/22/22	10:29 AM	Right Angle	No Apparent Injury	Daylight	Dry
22020071	10/23/22	5:20 PM	Same Direction - Rear End	Possible Injury	Daylight	Wet
22020352	10/27/22	4:14 PM	Right Angle	No Apparent Injury	Daylight	Dry
22020747	11/01/22	6:17 PM	Same Direction - Rear End	No Apparent Injury	Dark - Not Lighted	Dry
22020818	11/02/22	6:53 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22020999	11/05/22	11:54 AM	Right Angle	No Apparent Injury	Daylight	Dry
22021006	11/05/22	1:57 PM	Right Angle	Possible Injury	Daylight	Dry
22021161	05/16/22	4:46 PM	Encroachment	No Apparent Injury	Daylight	Dry
22021788	11/16/22	1:15 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
22022004	11/19/22	12:43 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22022016	11/19/22	5:32 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22023148	12/06/22	1:30 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22023341	12/08/22	8:21 PM	Animal	No Apparent Injury	Dark - Lighted	Dry
22023513	12/11/22	9:37 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22023606	12/13/22	7:22 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Icy
22023687	12/14/22	8:02 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22023903	12/17/22	2:38 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22024099	12/20/22	2:43 PM	Opposite Direction (Sideswipe)	Possible Injury	Daylight	Dry
22024229	12/22/22	1:57 PM	Right Angle	No Apparent Injury	Daylight	Wet
22024262	12/23/22	6:12 AM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Wet
22024289	12/23/22	12:57 PM	Right Angle	No Apparent Injury	Daylight	Wet
22024525	12/26/22	5:51 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
22024839	12/31/22	11:21 AM	Fixed Object	No Apparent Injury	Daylight	Wet
22026061	06/17/22	11:34 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22026414	06/20/22	7:05 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22029553	07/09/22	5:34 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22033302	08/03/22	4:36 PM	Encroachment	Possible Injury	Daylight	Dry
22036506	08/24/22	11:52 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22042000	09/27/22	9:54 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23000123	01/02/23	9:37 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
23000421	01/06/23	1:41 PM	Fixed Object	No Apparent Injury	Daylight	Dry
23000502	01/07/23	2:06 PM	Right Angle	Possible Injury	Daylight	Dry
23000612	01/09/23	7:10 AM	Same Direction - Rear End	No Apparent Injury	Dawn	Wet
23000744	01/11/23	7:06 AM	Pedestrian	No Apparent Injury	Dawn	Dry
23000748	01/11/23	7:28 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23001020	01/14/23	11:01 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
23001813	01/25/23	7:26 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
23001934	01/27/23	10:26 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23002466	02/03/23	3:50 PM	Right Angle	No Apparent Injury	Daylight	Dry
23002634	02/06/23	8:12 AM	Backing	No Apparent Injury	Daylight	Dry
23003429	02/16/23	10:51 AM	Opposite Direction (Sideswipe)	No Apparent Injury	Daylight	Dry
23003450	02/16/23	3:00 PM	Same Direction - Rear End	Possible Injury	Daylight	Wet
23003451	02/16/23	3:04 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
23004021	02/22/23	4:25 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23004402	02/26/23	6:42 PM	Backing	Possible Injury	Dark - Lighted	Dry
23004962	03/06/23	2:48 PM	Same Direction - Sideswipe	Suspected Minor Injury	Daylight	Dry
23005110	03/08/23	6:04 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23005278	03/11/23	10:26 AM	Right Angle	No Apparent Injury	Daylight	Wet
23005447	03/13/23	7:53 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
23005766	03/18/23	3:21 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23005913	03/20/23	7:14 PM	Same Direction - Sideswipe	No Apparent Injury	Dusk	Dry
23006976	04/05/23	7:10 PM	Opposite Direction (Sideswipe)	Possible Injury	Dusk	Dry
23007155	04/08/23	6:00 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
23007328	04/11/23	11:20 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23007432	04/12/23	3:07 PM	Right Angle	No Apparent Injury	Daylight	Dry
23007491	04/13/23	10:41 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23007672	04/15/23	3:52 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23008115	04/21/23	2:05 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23008518	04/27/23	8:31 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23008700	04/29/23	8:38 PM	Encroachment	No Apparent Injury	Dark - Lighted	Wet
23008845	05/02/23	9:44 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23008974	05/03/23	10:34 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
23009031	05/04/23	4:15 PM	Fixed Object	No Apparent Injury	Daylight	Wet
23009132	05/05/23	5:24 PM	Struck Parked Vehicle	No Apparent Injury	Daylight	Dry
23009356	05/08/23	6:26 PM	Right Angle	Possible Injury	Daylight	Dry
23009607	05/12/23	8:29 AM	Right Angle	No Apparent Injury	Daylight	Dry
23009615	05/12/23	9:43 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23009873	05/15/23	5:30 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23010030	05/17/23	7:04 PM	Left Turn/U Turn	Possible Injury	Daylight	Dry
23010280	05/20/23	6:02 PM	Fixed Object	No Apparent Injury	Daylight	Wet
23011012	05/30/23	7:20 AM	Same Direction - Rear End	Possible Injury	Dawn	Dry
23011701	06/08/23	1:39 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23012028	06/13/23	7:00 AM	Right Angle	No Apparent Injury	Daylight	Dry
23012240	06/15/23	12:47 PM	Right Angle	Possible Injury	Daylight	Dry
23012438	06/18/23	11:45 AM	Fixed Object	No Apparent Injury	Daylight	Dry
23012870	06/24/23	3:46 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23012954	06/26/23	4:30 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Wet
23012986	06/26/23	4:35 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23012996	06/26/23	7:42 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23013129	06/28/23	7:03 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23013240	06/30/23	11:05 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23013669	07/06/23	4:22 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23014038	07/11/23	3:45 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23014101	07/12/23	1:42 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23014911	07/24/23	3:07 PM	Right Angle	No Apparent Injury	Daylight	Dry
23015257	07/29/23	10:50 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23015345	07/30/23	5:41 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23015376	07/31/23	10:57 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23015562	08/02/23	5:53 PM	Right Angle	Possible Injury	Daylight	Dry
23015637	08/03/23	8:14 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23016312	08/14/23	1:16 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23016329	08/14/23	6:24 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23016362	08/15/23	2:27 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23016838	08/22/23	3:04 PM	Right Angle	No Apparent Injury	Daylight	Dry
23017416	08/30/23	3:05 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23017684	09/02/23	6:23 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23018058	04/21/23	7:25 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
23018318	09/11/23	1:50 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23018361	09/11/23	8:35 PM	Animal	No Apparent Injury	Dark - Lighted	Wet

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23018743	04/25/23	12:15 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23018805	09/18/23	1:35 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23018863	09/19/23	10:55 AM	Fixed Object	No Apparent Injury	Daylight	Dry
23019017	09/21/23	9:59 AM	Right Angle	No Apparent Injury	Daylight	Dry
23019282	09/25/23	3:00 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23019368	09/26/23	4:51 PM	Right Angle	Possible Injury	Daylight	Dry
23019615	09/29/23	7:55 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Wet
23019657	09/30/23	12:51 PM	Right Angle	No Apparent Injury	Daylight	Wet
23020265	10/09/23	11:33 AM	Right Angle	No Apparent Injury	Daylight	Dry
23020862	10/17/23	3:07 PM	Right Angle	Possible Injury	Daylight	Dry
23020882	10/17/23	7:11 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23020927	10/18/23	1:55 PM	Right Angle	No Apparent Injury	Daylight	Dry
23021270	10/23/23	2:24 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23021321	10/24/23	9:59 AM	Backing	No Apparent Injury	Daylight	Dry
23021554	10/27/23	3:21 PM	Backing	No Apparent Injury	Daylight	Dry
23021757	10/30/23	9:13 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23021919	11/01/23	12:31 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23021999	11/02/23	4:58 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23022629	11/12/23	12:37 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23023446	11/25/23	2:30 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23023871	12/02/23	8:37 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23024299	12/08/23	9:24 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23024401	12/10/23	1:24 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23024472	12/11/23	2:16 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23024744	12/14/23	6:17 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23024795	12/15/23	10:59 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23024884	12/16/23	5:00 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23024939	12/17/23	4:22 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Wet
23025099	06/02/23	7:31 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23025553	12/27/23	12:38 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23025690	12/29/23	1:10 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23031060	06/28/23	2:00 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23044741	10/03/23	12:22 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23053492	11/30/23	5:35 AM	Right Angle	Suspected Minor Injury	Dark - Lighted	Dry
23054346	12/06/23	6:08 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23054795	12/09/23	7:16 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23056808	12/22/23	12:03 PM	Right Angle	No Apparent Injury	Daylight	Dry
23011507	06/06/23	8:43 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23019850	10/03/23	2:07 PM	Right Angle	No Apparent Injury	Daylight	Dry
23021344	10/24/24	3:54 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23021748	10/01/23	8:03 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
23021751	10/30/23	8:18 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23022833	11/15/23	8:28 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23023737	11/30/23	9:31 AM	Right Angle	No Apparent Injury	Daylight	Wet
23024990	12/18/23	7:25 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
23025177	12/20/23	2:02 PM	Same Direction - Rear End	Possible Injury	Daylight	Wet
23025639	12/28/23	6:26 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Wet

Appendix D

Local Officials, Pre-Audit Meeting Presentation

ERNSTON ROAD / WASHINGTON ROAD

ROAD SAFETY AUDIT

Local Officials Meeting

October 2, 2024

Introductions: County & NJTPA

- **Andrew Lappitt**
  Project Manager
- **Linda Weber**
  Planning Director
- **George Fallat**
  County Engineering
- **Andy Kaplan – NJTPA**

Middlesex County Facts

- 25 municipalities
- ~ 830k population
- ~ 330 miles of county roads
- ~ 200 traffic signals

Introductions: Consultant Team

Middlesex County + NJTPA

Adam Catherine
Principal-In-Charge

Matthew Maher
Consultant Team Project Manager

Kati DiRaimondo
Deputy Project Manager

Needs Assessment

Kush Bhagat
Task Leader

Public Involvement

Courtenay Mercer
Task Leader

Data Analysis

Timothy Tresohlavy
Task Leader

Road Safety Audits

Anthony Durante
Task Leader

Agenda

- **Purposes of Meeting**
- **Project Background**
- **What is a Road Safety Audit (RSA)?**
- **Role of Local Officials**
- **CR 673 (Ernston/Washington) Information**
- **Open Discussion about CR 673**
- **Designate RSA Team Members**
- **Logistics Plan**
- **How to Stay Involved**

Purposes of Meeting Today

1. **Gather information on corridor to undergo RSA**
2. **Share logistics plan for RSA effort**

FEDERAL HIGHWAY ADMINISTRATION'S (FHWA'S)
8-STEP ROAD SAFETY AUDIT PROCESS

1. **Select Corridors (DONE)**
2. **Assemble RSA Team (TODAY)**
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report

Project Background

- **Years of safety successes within the County thanks to road safety audits (RSAs)**
  - Road diet/redesign of Livingston Avenue
  - Signalization/ADA improvements by NJ TRANSIT's New Brunswick Station
- **Advance another five (5) RSAs on different County roadways**
- **Corridor goal:**
  Successfully conduct an RSA in your community
- **Study goal:**
  Reduce fatal and serious injury crashes in the County

LIVINGSTON AVENUE
BEFORE & AFTER





County Road Crash Stats

Over the past 10 Years (2012-2021), on ***County jurisdiction roads*** *per year…*

*~**5,000** crashes*

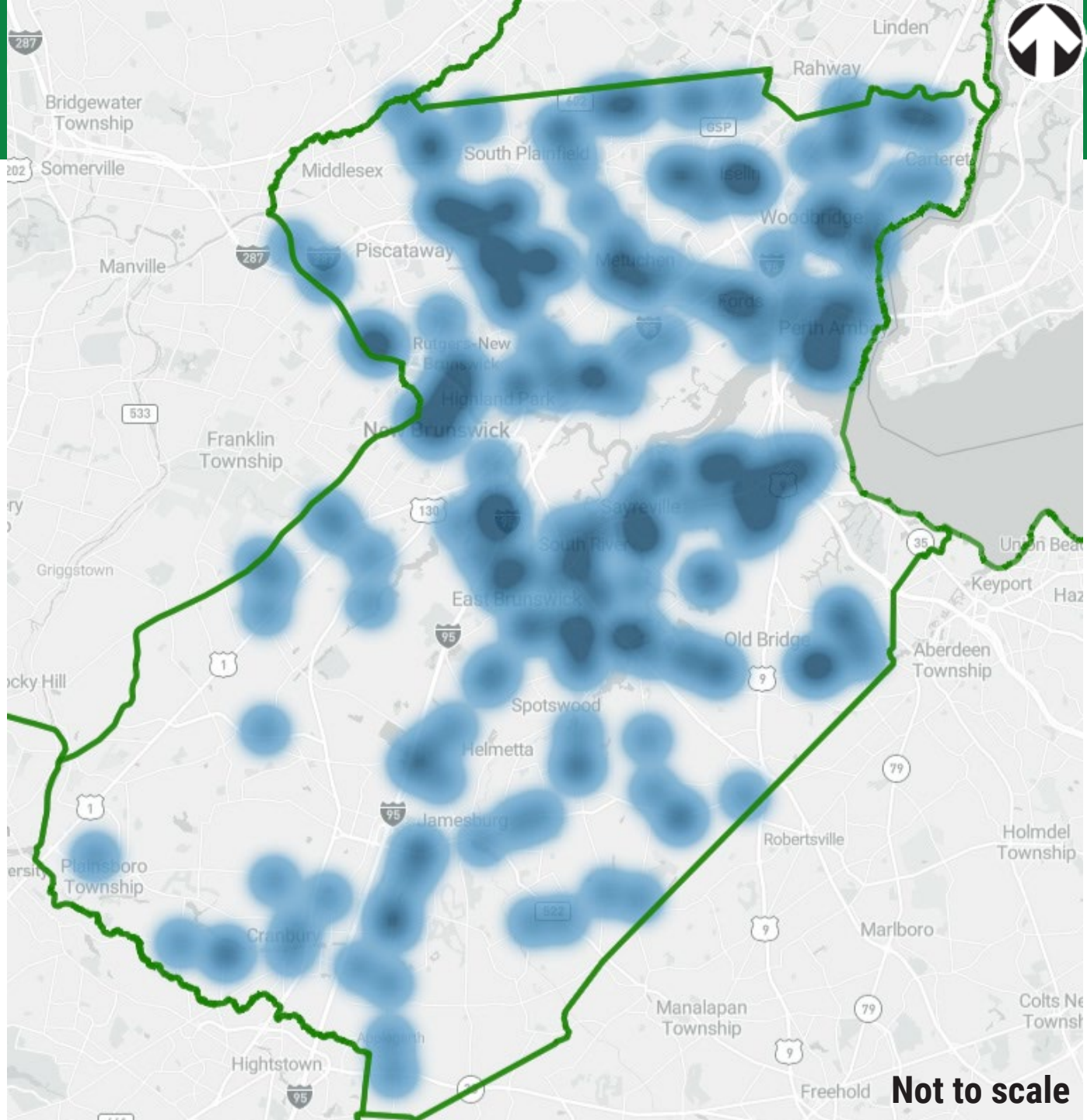
*~**27** serious injury crashes*

*~**10** fatal crashes*

*~**87** ped/bike crashes*

County road crash density map shown on the right half of screen (darker blue=more crashes)

Middlesex County Office of Planning, Ernston/Washington RSA



What is a Road Safety Audit (RSA)?

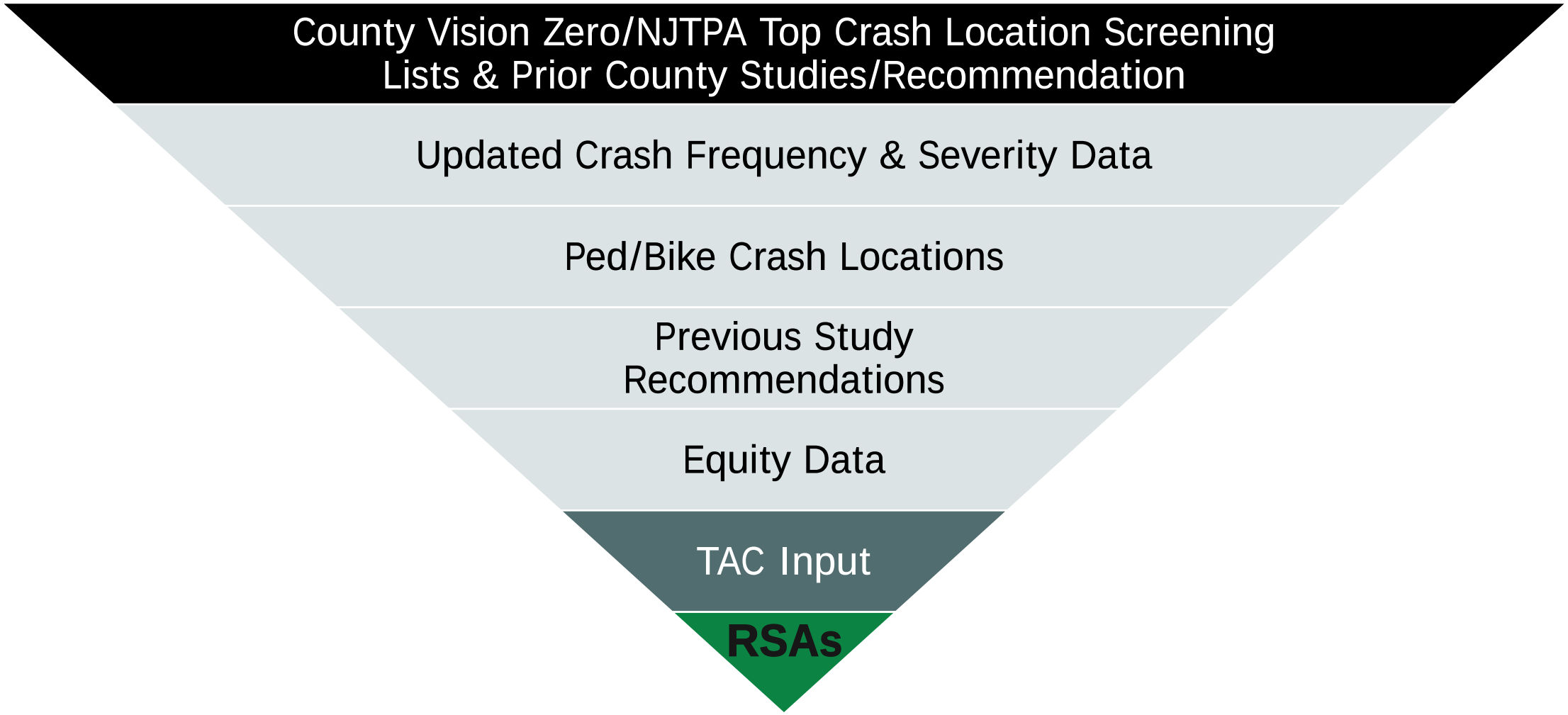
- **Safety performance evaluation by a multidisciplinary team including:**
  - **Law enforcement/EMS responders**
  - **Municipal staff and stakeholders (BOE, DPW, council, mayor, etc.)**
  - **County advocates (Keep Middlesex Moving, County Health/Safety)**
  - **Regional advisors (FHWA, NJDOT, NJTPA, NJ TRANSIT, AARP, New Jersey Bike Walk Coalition, Tri-State Trans. Campaign, etc.)**
  - **County and consultant engineers, planners, and administration**
- **Identifies crash trends/causes**
- **Proposes targeted safety improvements (policy, infrastructure, behavior, education)**

Role of Local Officials

- **Participate in 2 Local Officials Meetings:**
  - **One (1) prior to the RSA site visit to gather information important to successfully conducting the RSA, as well as discussing RSA logistics and potential participants - TODAY**
  - **One (1) after the RSA site visit to review findings and draft recommendations and discuss logistics for a public meeting – FEBRUARY 2025**
- **Participate in RSA**
- **Assist in planning Public Meeting**
- **Other roles:**
  - **Technical expertise**
  - **Provision of relevant studies/docs**
  - **Help with publicizing public engagement activities**

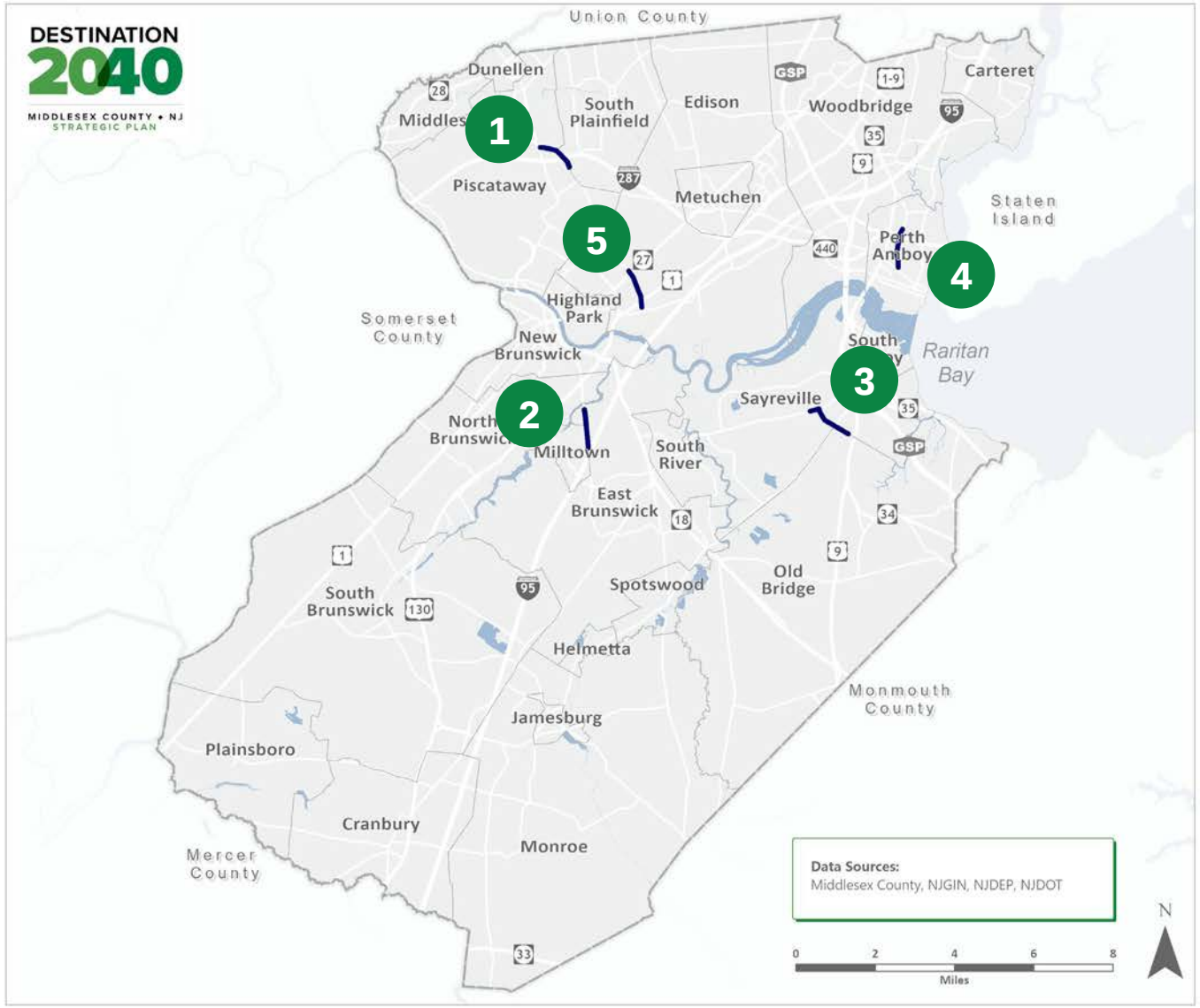


Corridor Selection



County Road Segments Selected for RSA Review

1. **CR 529** - Stelton Rd in Piscataway/South Plainfield
2. **CR 617** - Ryders Ln in Milltown/East Brunswick
3. **CR 673** - Ernston Rd in Sayreville/Old Bridge
4. **CR 653** - Amboy Ave in Perth Amboy
5. **CR 529** - Plainfield Ave in Edison



Map 1: Road Safety Audit (RSA) Corridors

MIDDLESEX COUNTY • NJ

Middlesex County Road Safety Audits, 2024



Legend

- RSA Corridors
- Middlesex County
- Municipalities of Middlesex County
- Water Bodies

Prepared: September 20, 2024
By: Middlesex County Office of Planning

Ernston Road

Sayreville Boro / Old Bridge Twp

High Crash Frequency and Severity Corridor

Corridor previously studied

Schools Within 1/4 Mile

- Sayreville Middle School
- War Memorial School
- Madison Park Elementary School
- Samsel Upper Elementary School
- Other Private Schools

Previous Recommendations

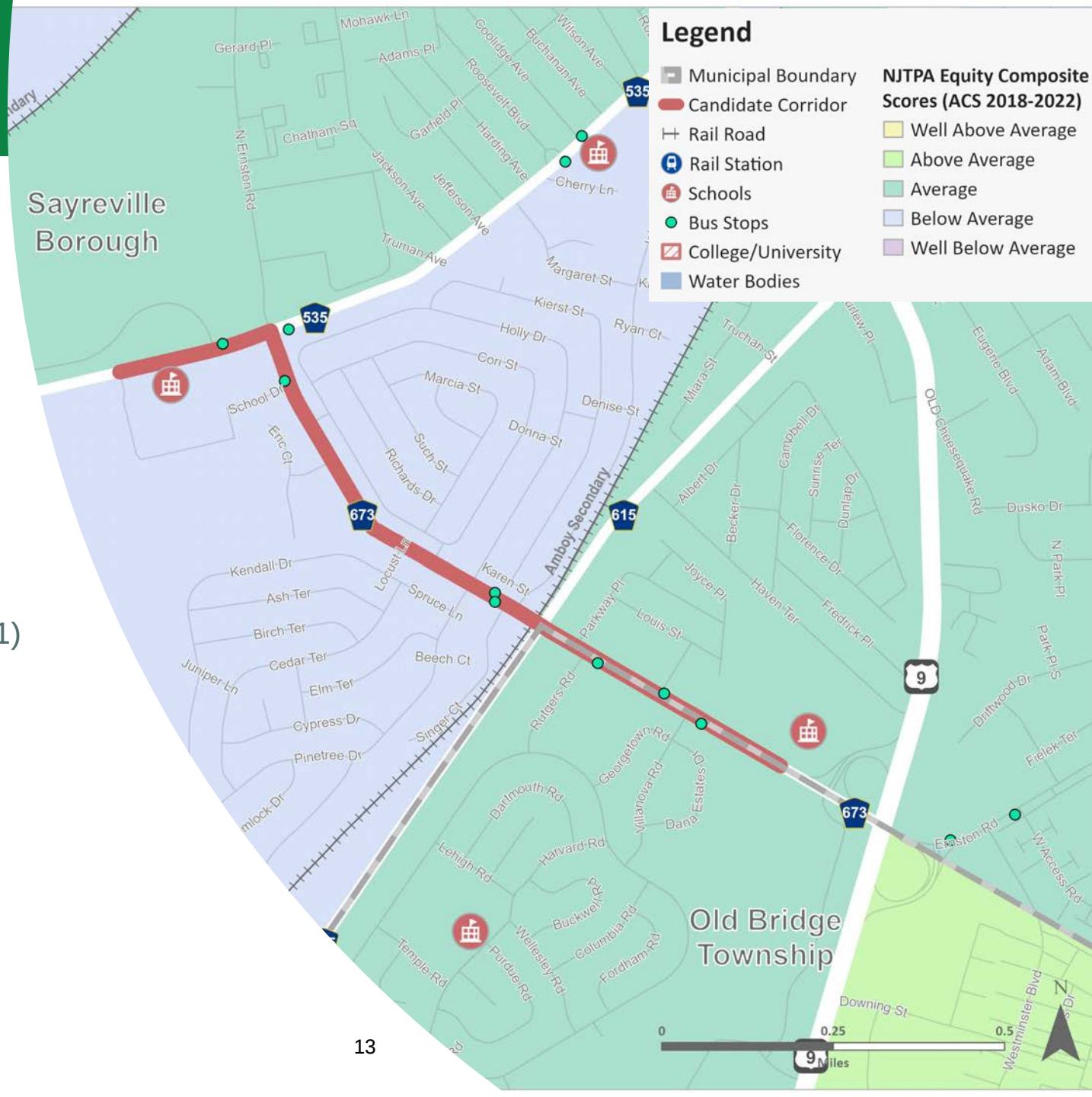
- Route 9 Corridor Transit Linkages Study (2011)

Crash Trends Observed (2017 through 2021)

- 298 Crashes in Total (1 Fatal/4 SI)
- 0 Ped/Bike Crashes
- 21% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Same Direction - Rear End (48%)
- Right Angle (21%)
- Same Direction – Sideswipe (13%)



Ernston Road

Sayreville Boro / Old Bridge Twp

High Crash Frequency and Severity Corridor

Corridor previously studied

Schools Within 1/4 Mile

- Sayreville Middle School
- War Memorial School
- Madison Park Elementary School
- Samsel Upper Elementary School
- Other Private Schools

Previous Recommendations

- Route 9 Corridor Transit Linkages Study (2011)

Crash Trends Observed (2017 through 2021)

- 298 Crashes in Total (1 Fatal/4 SI)
- 0 Ped/Bike Crashes
- 21% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Same Direction - Rear End (48%)
- Right Angle (21%)
- Same Direction – Sideswipe (13%)



Open Discussion

Other than what's been presented, are there any existing studies, traffic counts, etc., for this corridor? What other data should our team be aware of for this corridor?

Open Discussion

Are there any land development applications/approvals or road improvement projects adjacent to this segment of the corridor or nearby?

Open Discussion

What are your traffic safety observations and concerns about the corridor?

Any operational and maintenance safety issues (lighting, drainage, etc.) that we should be aware of?

Immediate Need: Selecting RSA Team Members

1. Select Corridors
2. Assemble RSA Team
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report



Logistics Plan (subject to change)

- **RSA currently scheduled for Monday, October 21st, 8-11am**
- **Rain date is Wednesday, October 23rd**
- **Start at Sayreville Public Library, walk south and back**
- **Longest corridor, nearly 1.25 miles; 2.5 total walking distance**
- **Materials available for note taking**
- **Photos and videos are encouraged**

Designate RSA Team Members

Who should we contact to participate?

- ✓ **Must haves**
  - ✓ **Public Repr.: Safety Task Force, Advocacy, Neighborhood Association**
  - ✓ **At least one municipal official to report back**
  - ✓ **Law enforcement**
  - ✓ **Engineer/planner**
- **Desired Participants**
  - **EMS responders**
  - **BOE**
  - **DPW**
  - **Councilpersons**
  - **Mayor**
  - **Consultants**
  - **Administrators**

Audit Details



Sayreville War Memorial High School

Sidewalks on both sides of Ernston Road

Samsel Upper Elementary School

Old Bridge Township

Meet/Park Location:

Sayreville Public Library
1050 Washington Road
Parlin, NJ 08859
~2.5-mile walk

Audit Form

- Categories: Segments, Intersections, Multi-Modal, and Experiential
- Mark the appropriate column for each question
- Any additional/specific details can be recorded under the “Notes” column

Middlesex County Office of Planning, Ernston/Washington RSA

Name: _____

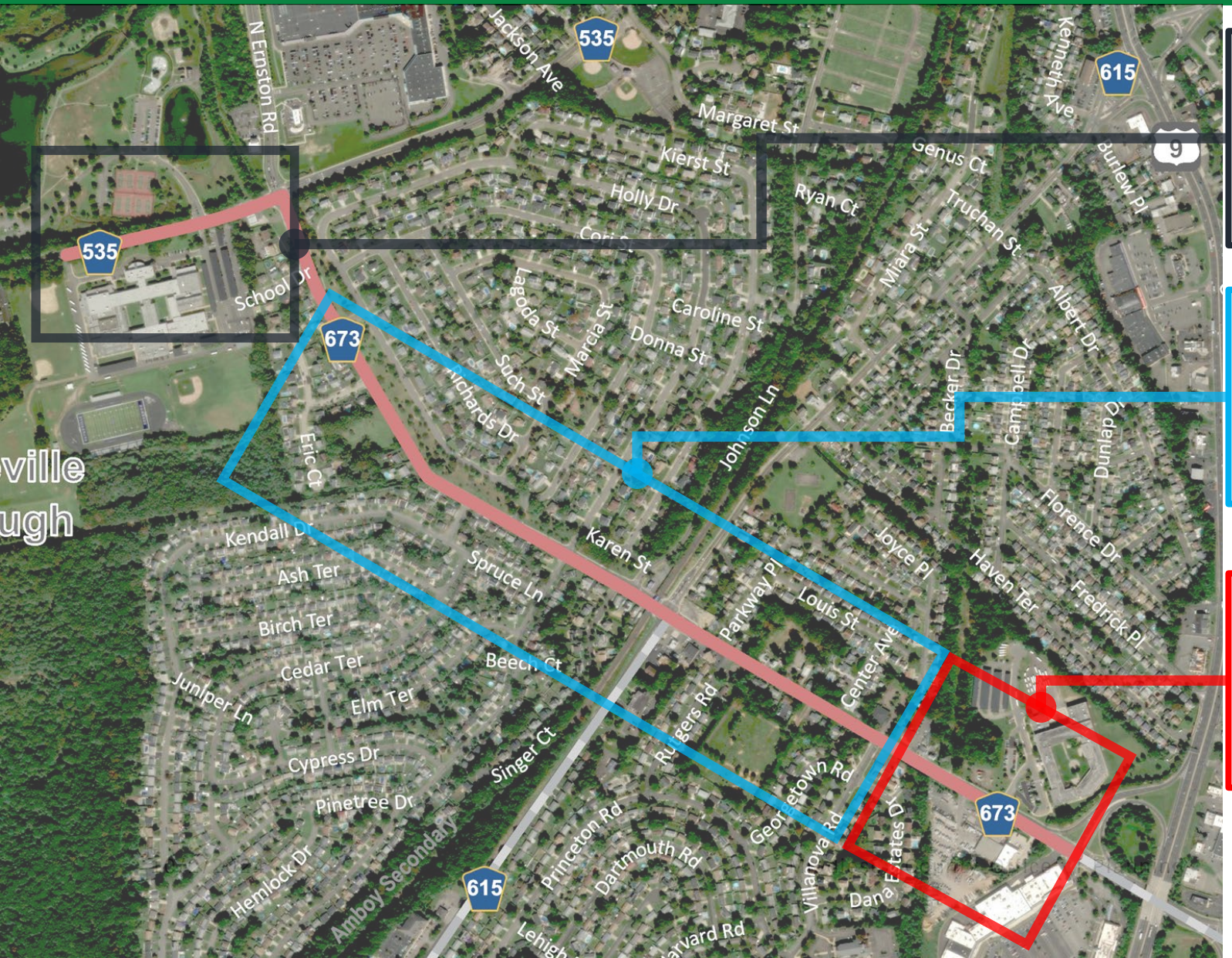
Date: _____

Corridor: _____

	Segments (between intersections)	YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

	Intersections	YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

Audit Considerations – Roadway Characteristics



- Two lanes, downhill approach to Ernston Road
- Adjacent To Sayreville War Memorial High School, JFK Park

- Two lanes
- Residential
- Walkable, sidewalks on Both Sides
- Two lanes

- Four lanes
- Adjacent To Elementary School, Route 9, retail
- Long crossings

What to Look for



Sidewalk Trip Hazards



Sign Visibility Blocked by Trees



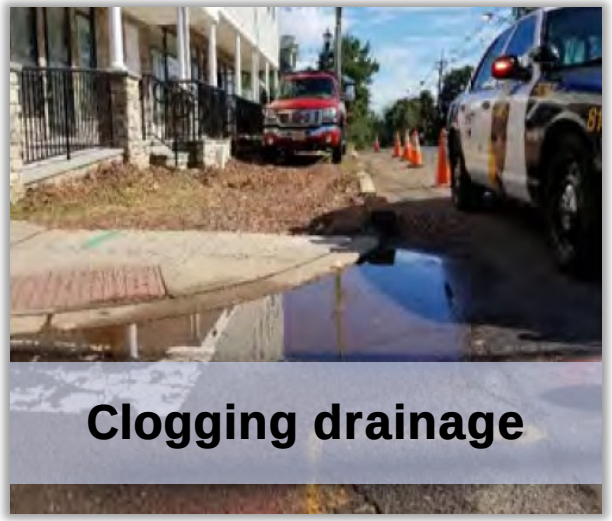
Sidewalk overgrowth (shrubs)



Signal Heads in need of upgrade



Cyclist provisions



Clogging drainage

What to Look for



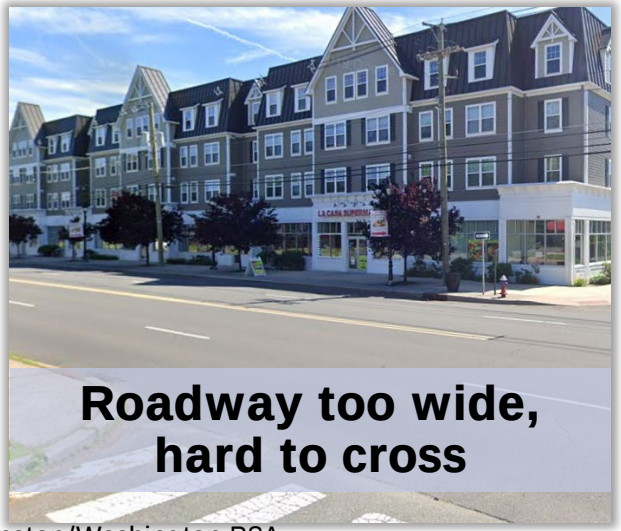
No curb ramp / crosswalk present



Faded striping / Non-compliant curb ramps



Driveway aprons too wide, lack ADA



Roadway too wide, hard to cross



Traffic calming at curve / intersection

What we saw



LONG DISTANCE BETWEEN MARKED CROSSINGS



HIGH SPEEDS



WIDE DRIVEWAY APRONS



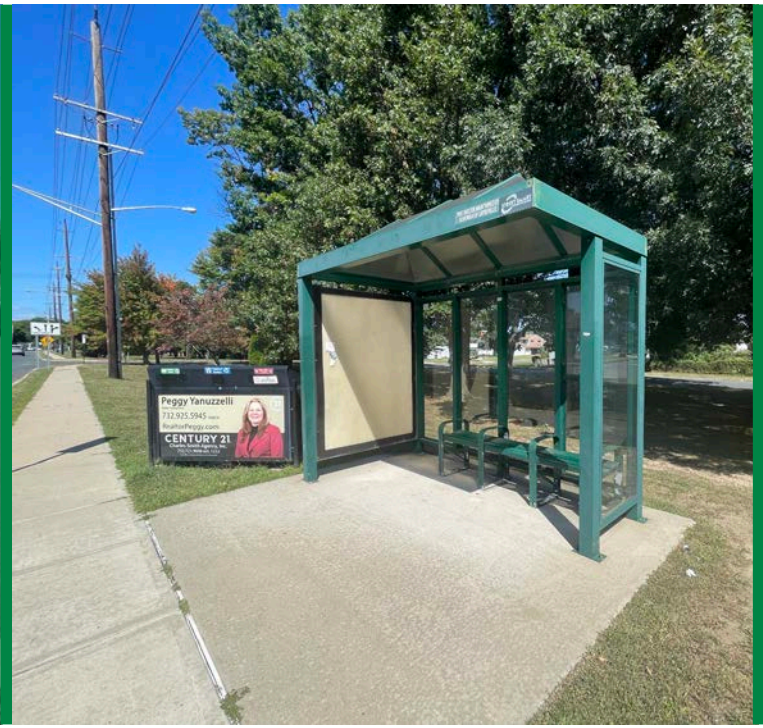
MAINTENANCE ISSUES

Middlesex County Office of Planning, Ernston/Washington RSA

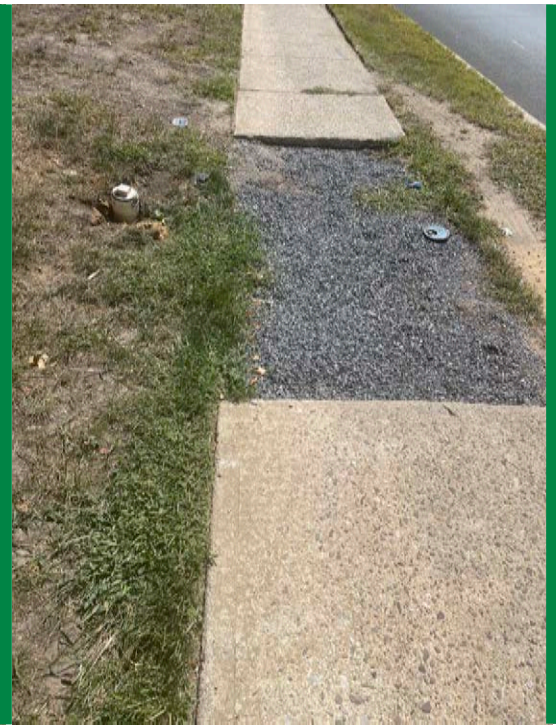
What we saw



LONG CROSSINGS



TRANSIT AMENITIES



SIDEWALK CONDITIONS



INTERSECTION MANAGEMENT

Audit Considerations



COMFORTABLE CLOSED SHOES



WEATHER CONSCIOUS



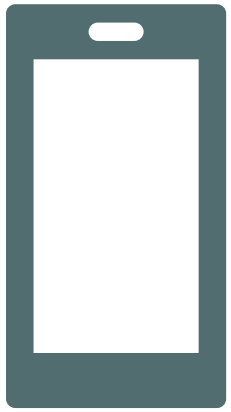
HIGH VISIBILITY VESTS

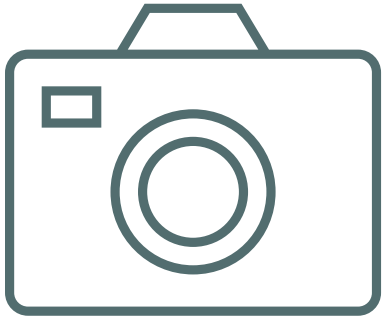
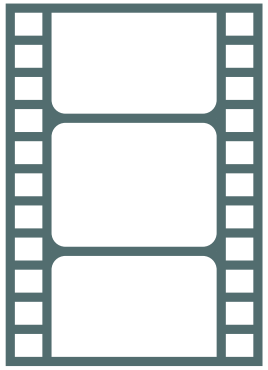


DOCUMENTING MATERIAL

How to Record Observations

- Photograph
- Pen/Pencil Paper
- Video
- Mobile Device
- Mental





How to Stay Involved

- **Help the County designate the RSA team: TODAY**
- **Conduct the RSAs with us: October**
- **Draft RSA Reports become available: December**
- **One lead contact rep. to attend next TAC: February 2025**
- **Public Meeting: Late Winter/Early Spring 2025**

Next Local Officials Meeting in January 2025

Study email contact: andrew.lappitt@co.middlesex.nj.us

MIDDLESEX
COUNTY • NJ
BOARD OF COUNTY COMMISSIONERS

Ronald G. Rios, ***Director***
Shanti Narra, ***Deputy Director***
Claribel A. Azcona-Barber
Charles Kenny
Leslie Koppel
Chanelle Scott McCullum
Charles E. Tomaro

Appendix E

Audit Materials

Name: _____

Date: _____

Corridor: _____

Segments (between intersections)		YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

Intersections		YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

	Multi-Modal	YES	NO	N/A	Notes:
26	Did you observe any bicyclists or scooterists riding along the corridor, including on the sidewalk?				
27	Are signs present to identify bus stops?				
28	Do bus stops have any amenities (shelters, seating)?				
29	Do bus stops have adequate lighting (that you can tell)?				
30	Are the bus stops accessible and free of obstructions?				
31	Are there visible pedestrian crossings near the bus stops (that you can tell)?				

	Experiential	YES	NO	N/A	Notes:
32	Do you feel safe and visible while walking or biking along the corridor?				
33	Do you feel safe and visible crossing the corridor at intersections?				

Appendix F

Audit Team

ROAD SAFETY AUDIT TEAM

Name	Organization	Pre-Audit Meeting	RSA
Brian Braile	Sayreville Borough PD		X
Vinnie Buffalino	Sayreville Borough		X
Patrick Cerniglia	Sayreville Borough		X
Jay Cornell	CME Associates, Engineer, Sayreville Borough	X	X
Anahita Feltz	Old Bridge Township	X	
James Kolmansperger	Sayreville Borough		X
Daniel Plumacker	Sayreville Borough PD	X	
Zach Schlichte	Sayreville Borough	X	X
Nicole Shapiro	Old Bridge Township	X	X
Glenn Skarzynski	Sayreville Borough	X	
Peter Van den Kooy	Acuity, Planner, Sayreville Borough	X	X
Sonia Black	AARP		X
Cheryl Blackwell	AARP		X
Julie Marte	AARP		X
Michelle Murphy	AARP		X
Marcia P.	AARP		X
Joan Gotta	Local Resident		X
Bryan Adamcik	Middlesex County		X
Michael Dannemiller	Middlesex County	X	X
Andrew Lappitt	Middlesex County	X	X
Sergio Ruiz	Middlesex County		X
Linda Weber	Middlesex County	X	
Christopher Gonda	KMM		X
Arlene Holt	KMM		X
Brian Tobin	KMM		X
Andy Kaplan	NJTPA	X	X
William Long	NJTPA	X	
Christine Mittman	NJTPA		X
Marjoly De Leon	MBI		X
Anthony Durante	MBI	X	X
Peter Kremer	MBI		X
Joseph Amorosa	Stantec		X
Carley Atkisson	Stantec		X
Matthew Maher	Stantec	X	
Courtenay Mercer	MPA	X	

Appendix G

Conceptual Plan

OLD BRIDGE
SAYREVILLE

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTION.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

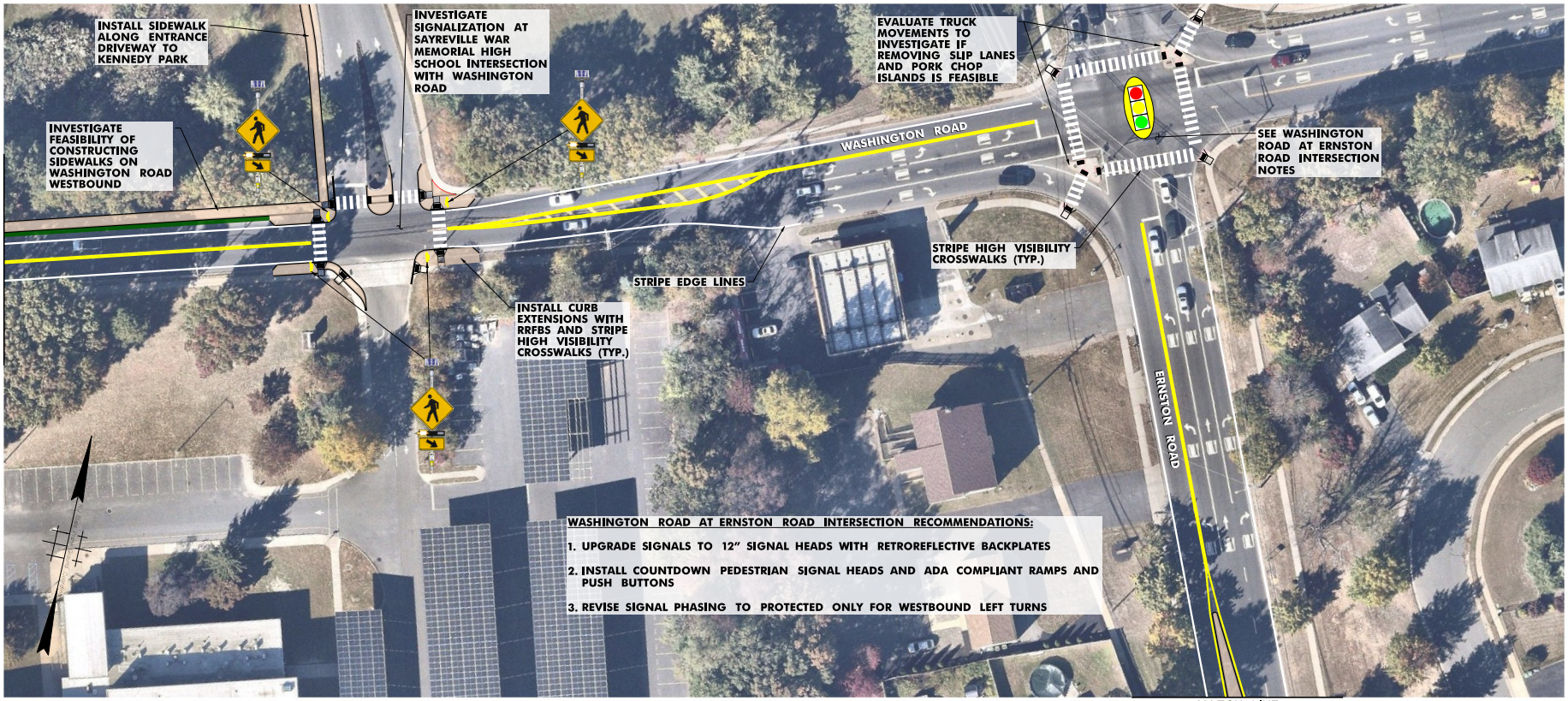
MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

OLD BRIDGE
SAYREVILLE

COUNTY OF MIDDLESEX



PLAN SHEET NO. C-X
MATCH LINE

MATCH LINE
PLAN SHEET NO. C-X

CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

OLD BRIDGE
SAYREVILLE

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

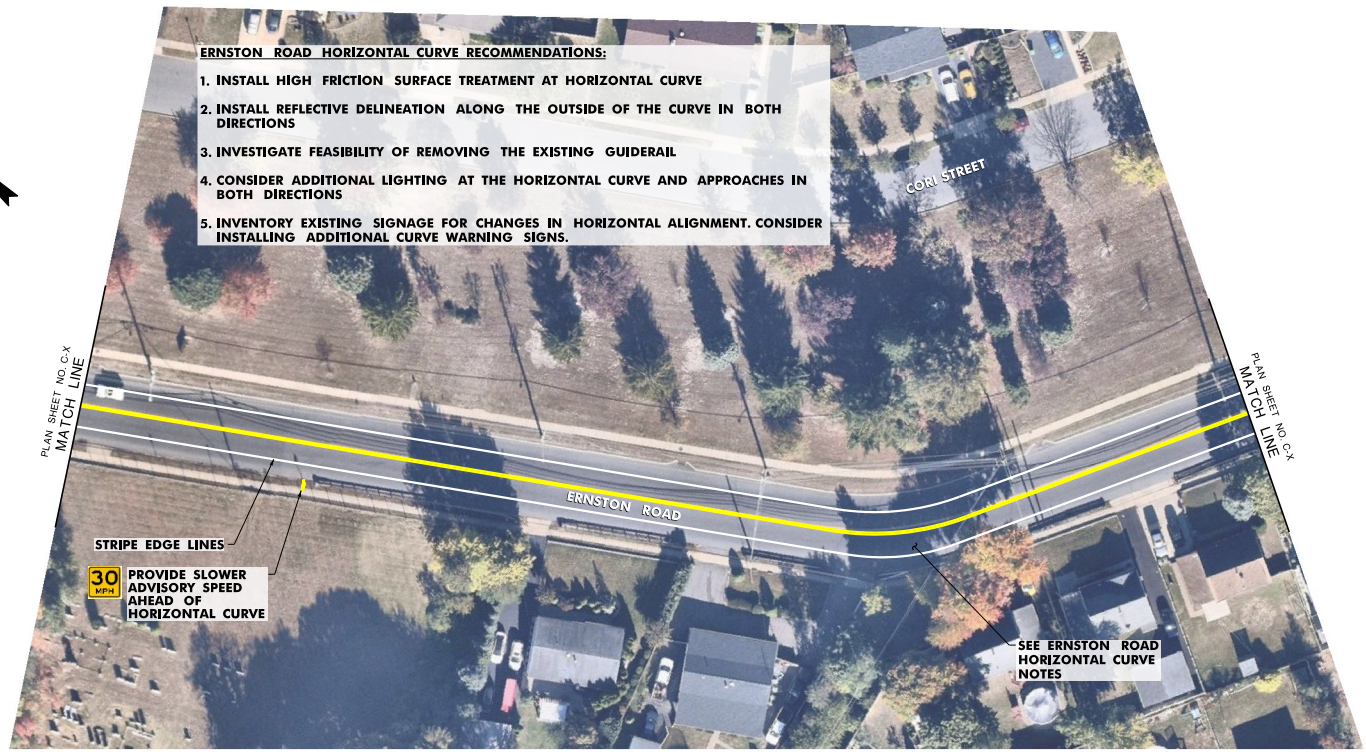
- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

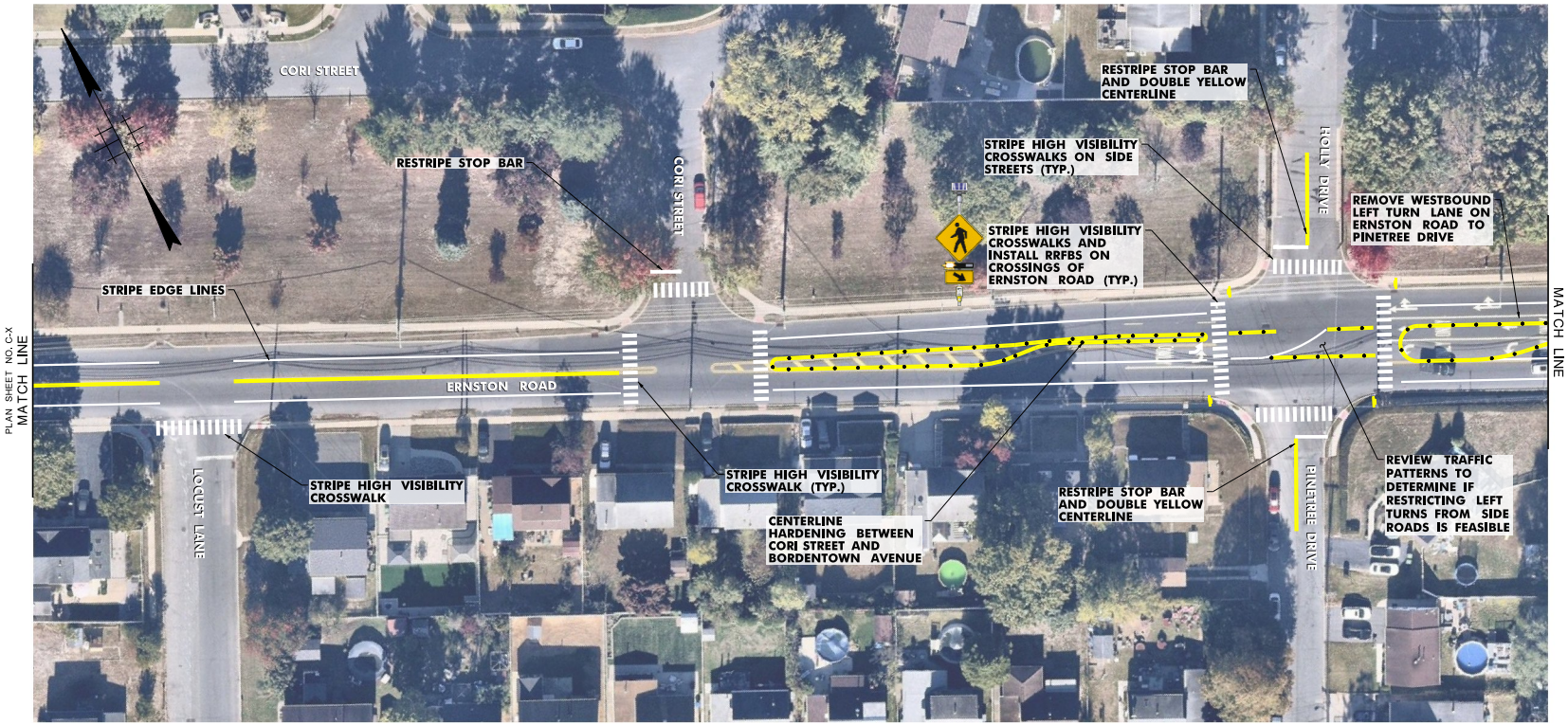
- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

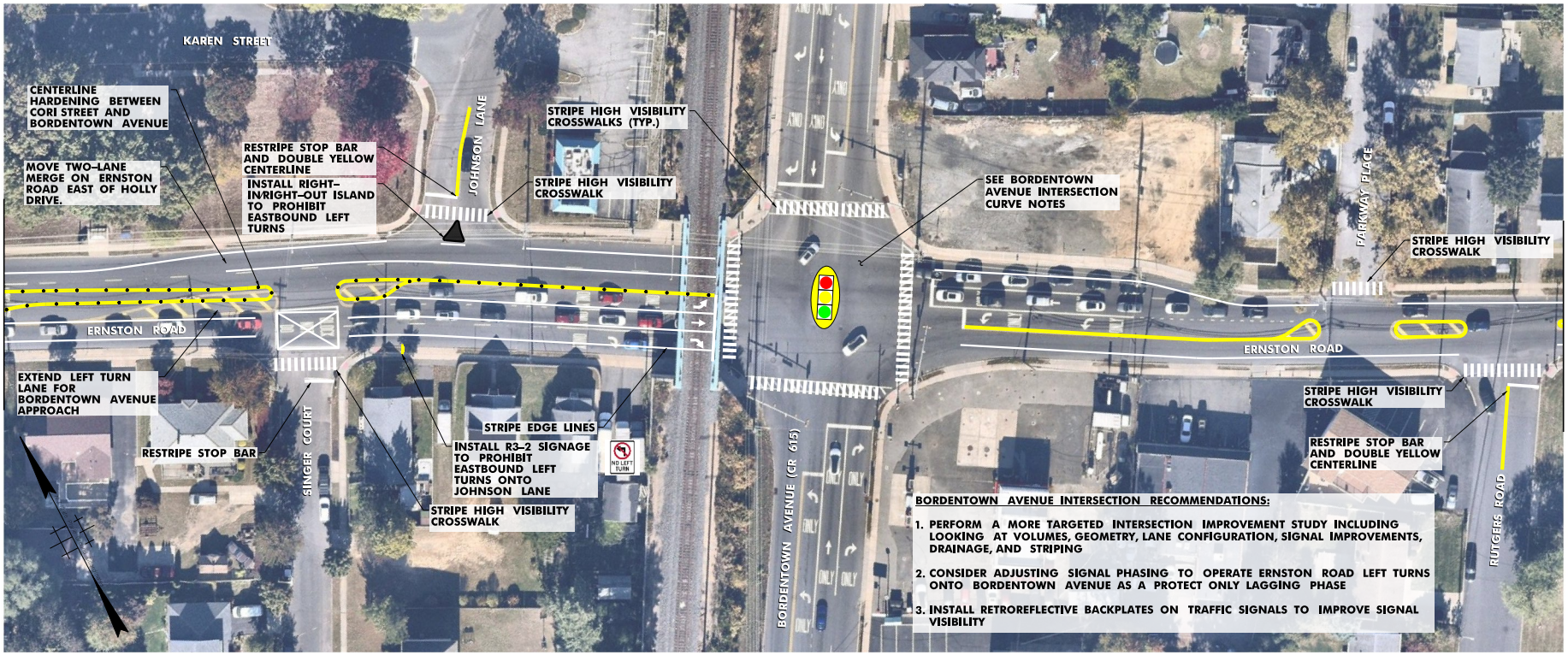
- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

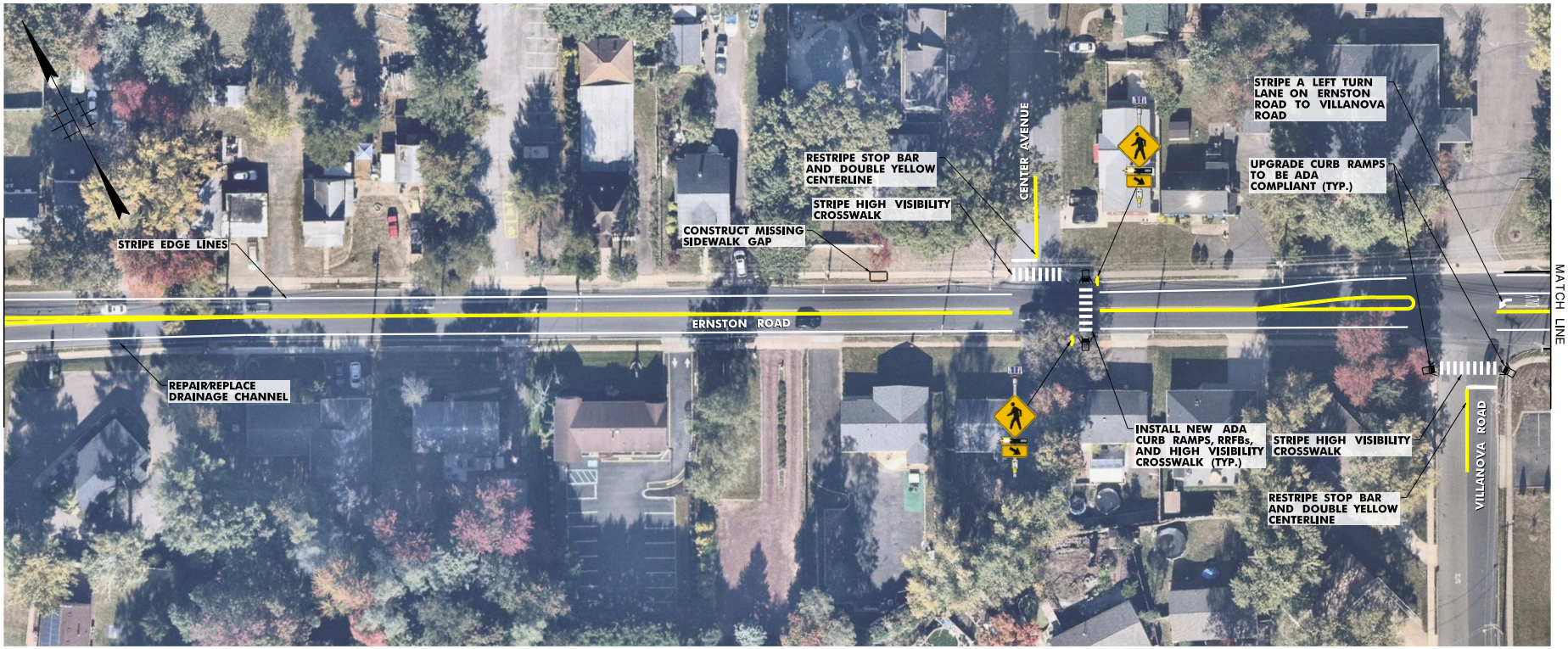
- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

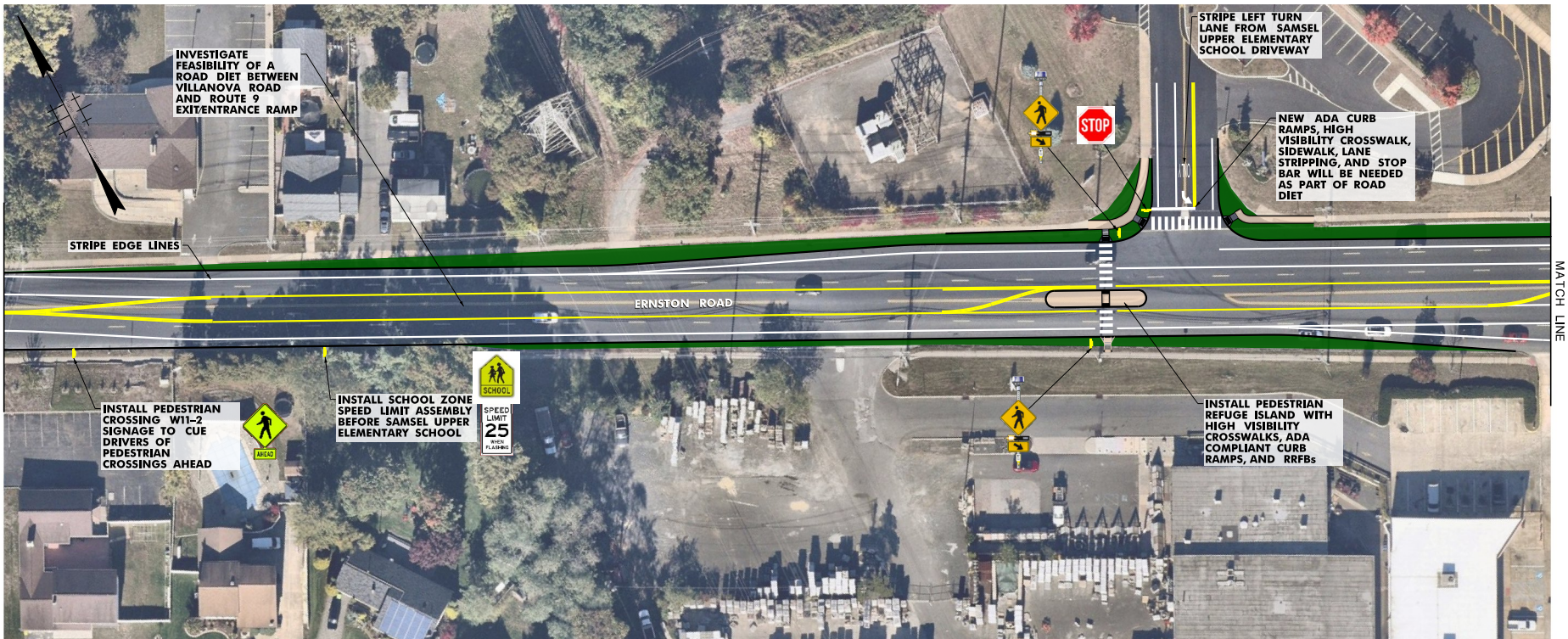
- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

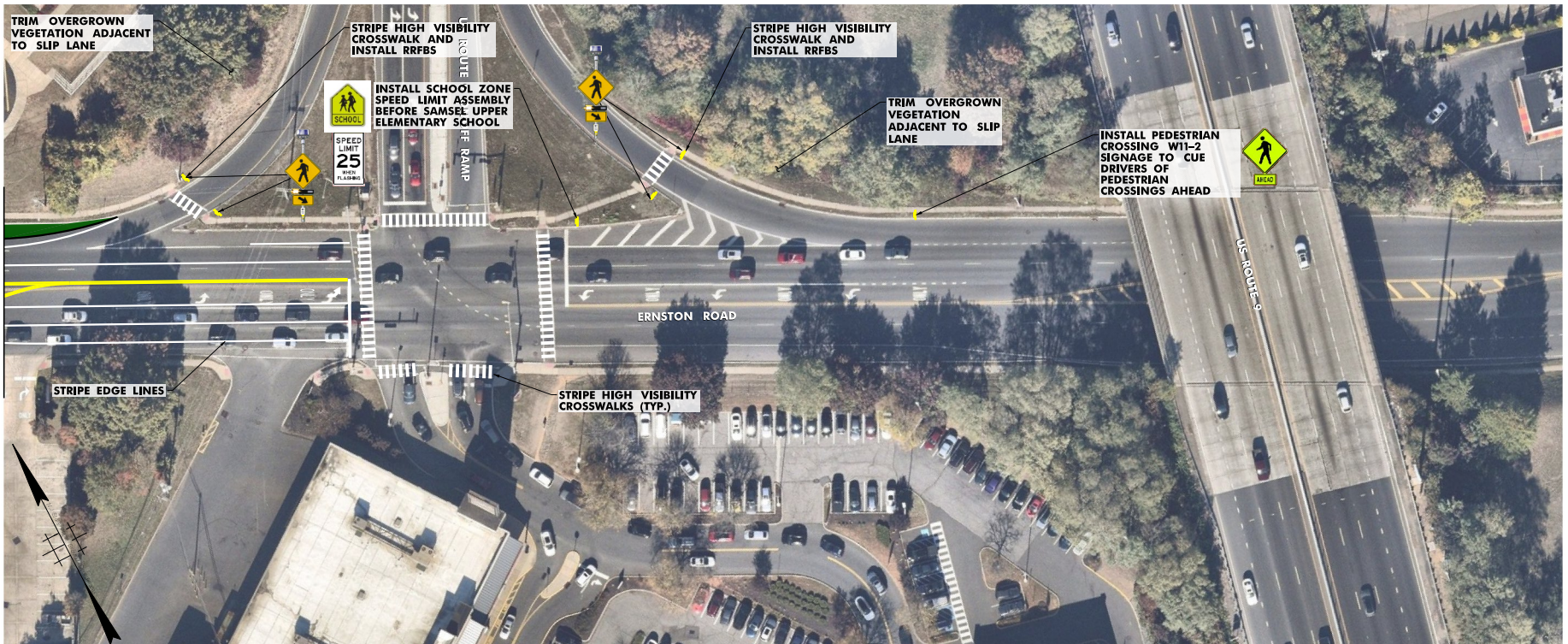
- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS



CORRIDOR WIDE NOTES:

1. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALK NEEDS REPAIR, REPLACEMENT, OR CONSTRUCTED.
2. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
3. CONDUCT A SIGN INVENTORY TO IDENTIFY SIGNS IN NEED OF UPGRADES TO RETROREFLECTIVITY AND CONDITION.
4. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
5. INVESTIGATE INSTALLING BIKE LANES ALONG ERNSTON ROAD.
6. WHERE FEASIBLE PROVIDE A SIDEWALK BUFFER BETWEEN SIDEWALK AND CURB.
7. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG AMBOY AVENUE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

Ernston Road (CR 673) / Washington Road (CR 535)
From Sayreville War Memorial High West Driveway to US Route 9

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

Middlesex County

Road Safety Audit Report



Stelton Road (CR 529) Piscataway and South Plainfield

From Centennial Ave/ Hadley Rd to S. Washington Ave MP 4.17-5.17

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY • NJ

April 2025

TABLE OF CONTENTS

Executive Summary ..... **iv**
1 INTRODUCTION **1**
1.1 Project Need 1
1.2 Site Selection 2
1.3 What is a Road Safety Audit (RSA)? 4
2 EXISTING CONDITIONS **5**
2.1 Study Location 5
2.2 Land Use 5
2.3 Community Profile 7
2.4 Roadway Characteristics 9
2.5 Traffic Volumes 9
2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations 9
2.7 Transit Service 9
2.8 Stakeholders 9
2.9 Outreach Efforts 10
3 CRASH FINDINGS **11**
3.1 Crash Types 11
3.2 Crash Severity 13
3.3 Temporal Trends 13
3.4 Roadway Surface & Lighting Conditions 15
3.5 Near Miss Analysis 16
3.6 Crash and Near Miss Data Finding Summary 17
4 RSA LOGISTICS **18**
4.1 Audit Schedule 18
4.2 Audit Participants 18
5 IDENTIFIED ISSUES & OBSERVATIONS **19**
5.1 Corridor-wide 19
5.2 Location-specific 24
6 FINDINGS & RECOMMENDATIONS **27**
6.1 Implementation Matrix (Recommendations) 27
6.2 Potential Funding Sources 34
6.3 Conceptual Plan 37
7 CONCLUSION **38**

LIST OF TABLES

Table 1. Equity Analysis Factors for Piscataway, South Plainfield, and Middlesex County. 7
Table 2. Stelton Road (CR 529) top overrepresented and reported crash types. 12
Table 3. Stelton Road (CR 529) crashes by severity. 13
Table 4. Stelton Road (CR 529) crashes by roadway surface conditions. 15
Table 5. Stelton Road (CR 529) crashes by light conditions. 15
Table 6. Stelton Road (CR 529) intersection near misses by mode and PET, in seconds. 16
Table 7. Implementation Matrix Legend 27
Table 8. Stelton Road recommendations. 28

LIST OF FIGURES

Figure 1. Study area land use map. iv
Figure 2. Map of RSA corridors. 3
Figure 3. Eight-Step RSA Process, adapted from the FHWA. 4
Figure 4. Stelton Road corridor land use map. 6
Figure 5. Stelton Road equity analysis map. 8
Figure 6. Stelton Road (CR 529) crashes by type. 12
Figure 7. Stelton Road (CR 529) crashes by month of the year. 13
Figure 8. Stelton Road (CR 529) crashes by day of the week. 14
Figure 9. Stelton Road (CR 529) crashes by time of day. 14
Figure 10. Stelton Road (CR 529) near-miss example 16

APPENDICES

Appendix A – Straight Line Diagram
Appendix B – Traffic Data
Appendix C – Crash Diagram
Appendix D – Local Officials, Pre-Audit Meeting Presentation
Appendix E – Audit Materials
Appendix F – Audit Team
Appendix G – Conceptual Plan

EXECUTIVE SUMMARY

The Middlesex County Road Safety Audits (RSAs) were conducted on five one-mile-long County roadway corridors throughout the month of October 2024, advancing the County's Vision Zero Action Plan goal to address and reduce serious injuries and fatalities. The study was funded through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), which assists subregions in refining and developing transportation improvement strategies consistent with the Long Range Transportation Plan (LRTP) and regional planning goals.

The five corridors were selected using several factors, including crash data analysis, equity factors, and prior studies. The audits followed the Federal Highway Administration's RSA process, identifying opportunities for safety improvements for all road users. Stelton Road (County Route 529) in Piscataway and South Plainfield was one of the five corridors selected for the audits. The corridor extends from Centennial Ave/Hadley Road (MP 4.17) to County Route 665 South Washington Avenue (MP 5.17).

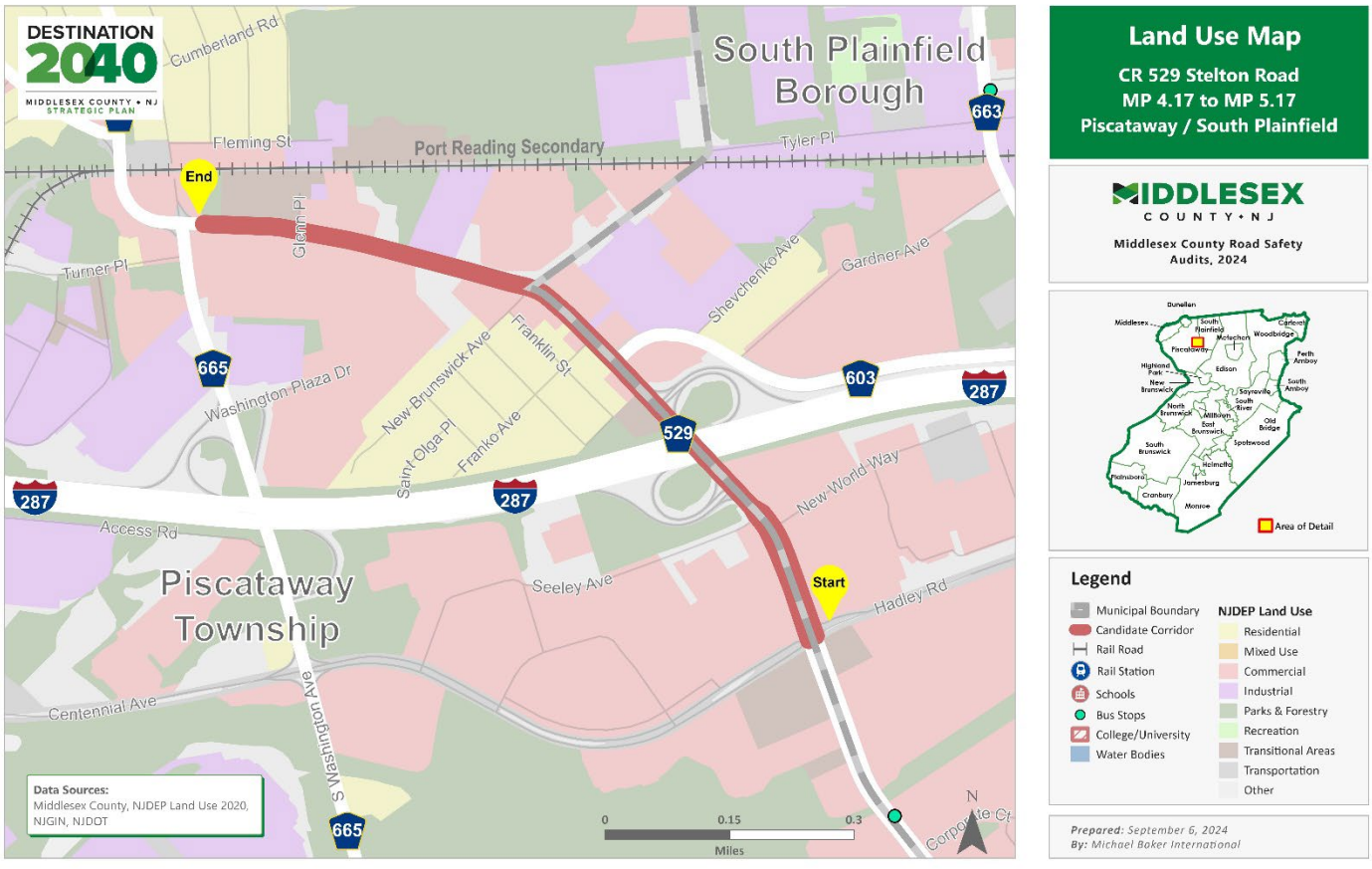


Figure 1. Study area land use map.

The Stelton Road pre-audit briefing took place at the Local Officials Meeting via Microsoft Teams on October 7th, 2024 with officials from Piscataway and on October 8th, with officials from South Plainfield. The field visit and post-audit debrief were conducted on Wednesday, October 16th, 2024. Participants included Middlesex County staff, the consultant team, municipal staff, and representatives from the NJTPA, Keep Middlesex Moving (KMM) Transportation Management Association (TMA), and the Alan M. Voorhees Transportation Center (VTC). Participants were given an RSA prompt list to help the team identify and document potential safety issues and to facilitate discussion of safety concerns and potential improvements. Following the in-person field audit, the team convened at the Holiday Inn conference room, to discuss and record observations.

The recommendations in this memo (Section 6 - Findings & Recommendations) are based on existing conditions analysis, field observations, post-audit discussion, and County staff comments. Recommendations include:

- Establishing a pedestrian Maintenance of Traffic (MOT) plan for development applications or any construction project that impacts the continuous pedestrian access along the roadway;
- Striping a high-visibility crosswalk from the SE corner to the NE corner of the intersection at the Hadley Road approach;
- Considering a traffic study to evaluate the feasibility of implementing protected left turns due to limited sight distance at both the I-287 South and I-287 North ramps;
- Considering reducing corner radii to slow right turns at New Brunswick Avenue; and
- Considering an intersection improvement study at both South Washington Avenue and Turner Place, to evaluate volumes, geometry, number of lanes, signal improvements, drainage, and striping.

The recommendations in this report are a starting point in reimagining a safer corridor, reflecting the ideas and suggestions of the RSA team, and should be developed further. Roadway recommendations should be evaluated and designed for the roadway context by Middlesex County or the appropriate jurisdiction according to applicable codes, standards, and best practices. Recommendations for education or enforcement strategies will need to be developed further by appropriate entities.

1 INTRODUCTION

Through the North Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP), Middlesex County conducted Road Safety Audits (RSAs) on five one-mile-long roadway corridors throughout the County, identifying potential safety issues for all road users and outlining strategies to mitigate crash occurrence and severity. RSAs are in alignment with the County's Vision Zero Action Plan initiative. The process followed the Federal Highway Administration's (FHWA) framework for RSAs. One of the corridors selected for the RSA was County Route 529, Stelton Road, from Centennial Avenue/Hadley Road (MP 4.17) to South Washington Avenue (MP 5.17), in Piscataway and South Plainfield.

This RSA report provides background information on the corridor, including the basis for corridor selection and other pertinent data such as surrounding context and land uses, multimodal inventory, crash data, crash analysis, summaries of the pre- and post-audit meetings, and key issues identified during the audit. The in-person field audit observations and the corridor data findings were used to generate a series of safety recommendations. Recommendations are presented in this report within an implementation matrix, which consists of estimated implementation timeframes, responsible agency/agencies, order of magnitude implementation costs, implementation priority, and available funding sources.

The RSA report also includes a conceptual "sketch" or "planning-level" plan showing the recommended physical design elements for the corridor. The plan illustrates potential future conditions for Stelton Road based on the RSA recommendations. Please note that implementing the recommendations outlined in this report requires professional engineering services to prepare the applicable design and construction documents.

1.1 Project Need

In 2022, Middlesex County adopted the Vision Zero Action Plan to reduce fatal and serious injury crashes on County roads. The Plan uses the Safe System framework, proposing actions that support each of the Safe System objectives: safer people, safer roads, safer vehicles, safer speeds, and post-crash care. Road safety audits are an action item in the Safe Roads category of the Action Plan's projects and strategies.

Two previous RSAs in Middlesex County— Livingston Avenue and the New Brunswick Train Station— have resulted in significant safety improvements in the City of New Brunswick, including a road diet and redesign of Livingston Avenue. Similarly, the County's goal is to conduct these additional five RSAs on County roadways to identify safety recommendations in pursuit of the County's Vision Zero pledge to eliminate traffic fatalities and serious injuries within the County by 2040.

1.2 Site Selection

County Route 529 Stelton Road corridor was selected from a list of twenty candidate corridors through a comprehensive analysis of the top crash segments for the County from NJTPA's Network Screening Lists, utilizing crash data, prior studies, and equity data as a basis for comparison and selection. The twenty candidate corridors were then narrowed to ten locations, eliminating the corridors with recent construction work, currently undergoing a study or design project. Finally, the five RSA locations were picked based on input from the Technical Advisory Committee (TAC) and discussions with the County's Department of Transportation, consisting of the Offices of Engineering and Planning. The following corridors, shown in **Figure 2**, were selected for the RSA study:

1. **Stelton Road (CR 529), MP 4.17-5.17, in Piscataway and South Plainfield**
2. Plainfield Avenue (CR 529), MP 0.10-1.10, in Edison
3. Amboy Avenue (CR 653), MP 0.08-1.08, in Perth Amboy
4. Ryders Lane (CR 617), MP 4.90-5.90, in Milltown and East Brunswick
5. Ernston Road (CR 673), MP 0.00-1.00, and Washington Road (CR 535), MP 30.27-30.50, in Sayreville and Old Bridge

Stelton Road was selected due to the high crash frequency and severity along the corridor, and it has been the subject of prior planning studies. On NJTPA's 2023 Screening Lists, Stelton Road ranks 1st on the Middlesex County Roadway Corridors List and 24th on the Intersections List (Stelton Road and New Brunswick Avenue).

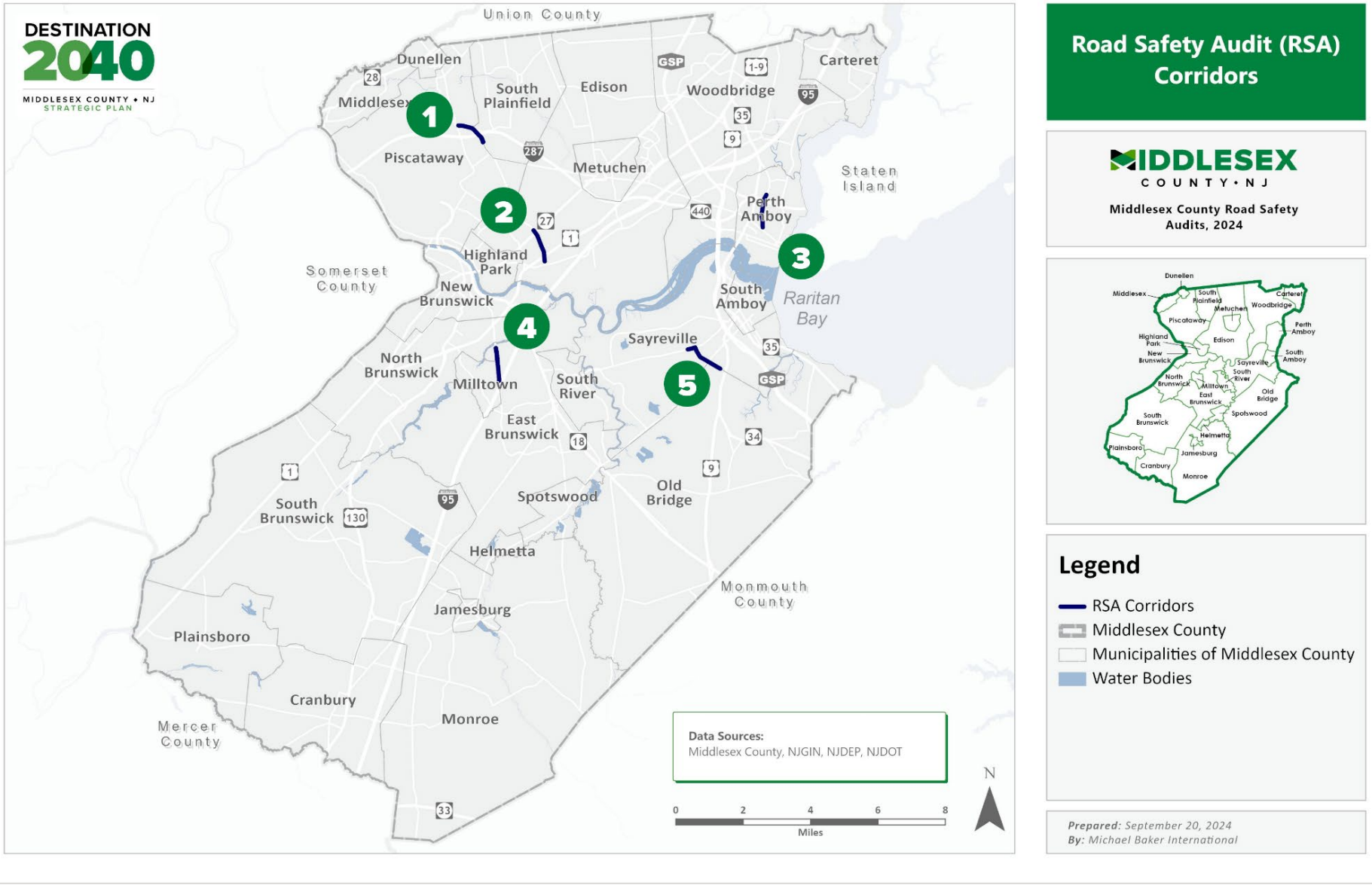


Figure 2. Map of RSA corridors.

1.3 What is a Road Safety Audit (RSA)?

FHWA defines an RSA as the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for safety improvements for all road users.

The independent multidisciplinary team may include professionals from various disciplines, including engineering, planning, emergency services, law enforcement, public works, and advocacy staff.

RSAs are one of the FHWA's Proven Safety Countermeasures[1] (PSC), which include strategies deployed to reduce roadway fatalities and serious injuries. The RSA process has been demonstrated to result in a 10 to 60 percent reduction in total crashes for the audit location, due to safety recommendations, and implementation of safer designs. See **Figure 3** for the eight steps for conducting an RSA.



Figure 3. Eight-Step RSA Process, adapted from the FHWA.

RSAs consider all road users by assessing existing and potential safety concerns on the corridor or intersection for all modes of transportation. The RSA process then recommends strategies to eliminate or mitigate the identified safety concerns. RSAs can be performed at any stage of a project - from planning to construction - although they are encouraged early in the process to allow for ample opportunities to incorporate recommendations into conceptual designs. RSAs produce a formal report that requires a formal response from the road owner.

[1] https://highways.dot.gov/safety/data-analysis-tools/rsa/road-safety-audits-rsa, accessed December 4, 2024

2 EXISTING CONDITIONS

2.1 Study Location

The Stelton Road (CR 529) study area is a one-mile corridor from Centennial Avenue and Hadley Road (MP 4.17) to South Washington Avenue (MP 5.17) and is located in both South Plainfield and Piscataway. A straight-line diagram of Stelton Road is provided in **Appendix A**. The study corridor is one segment of County Route 529, a major regional connector serving Edison, Piscataway, South Plainfield, and Dunellen, in Middlesex County, and Green Brook, and Watchung, in Somerset County.

2.2 Land Use

Land uses along the Stelton Road corridor are primarily commercial, with surrounding industrial uses, and a single-family residential development north of I-287 (**Figure 4**). By the Centennial Avenue and Hadley Road intersection, there is a large-scale commercial development with retail stores, a supermarket, fast-food restaurants, and gyms. North of I-287, there are gas stations, fast-food restaurants, a grocery store, and other auto-related commercial uses.

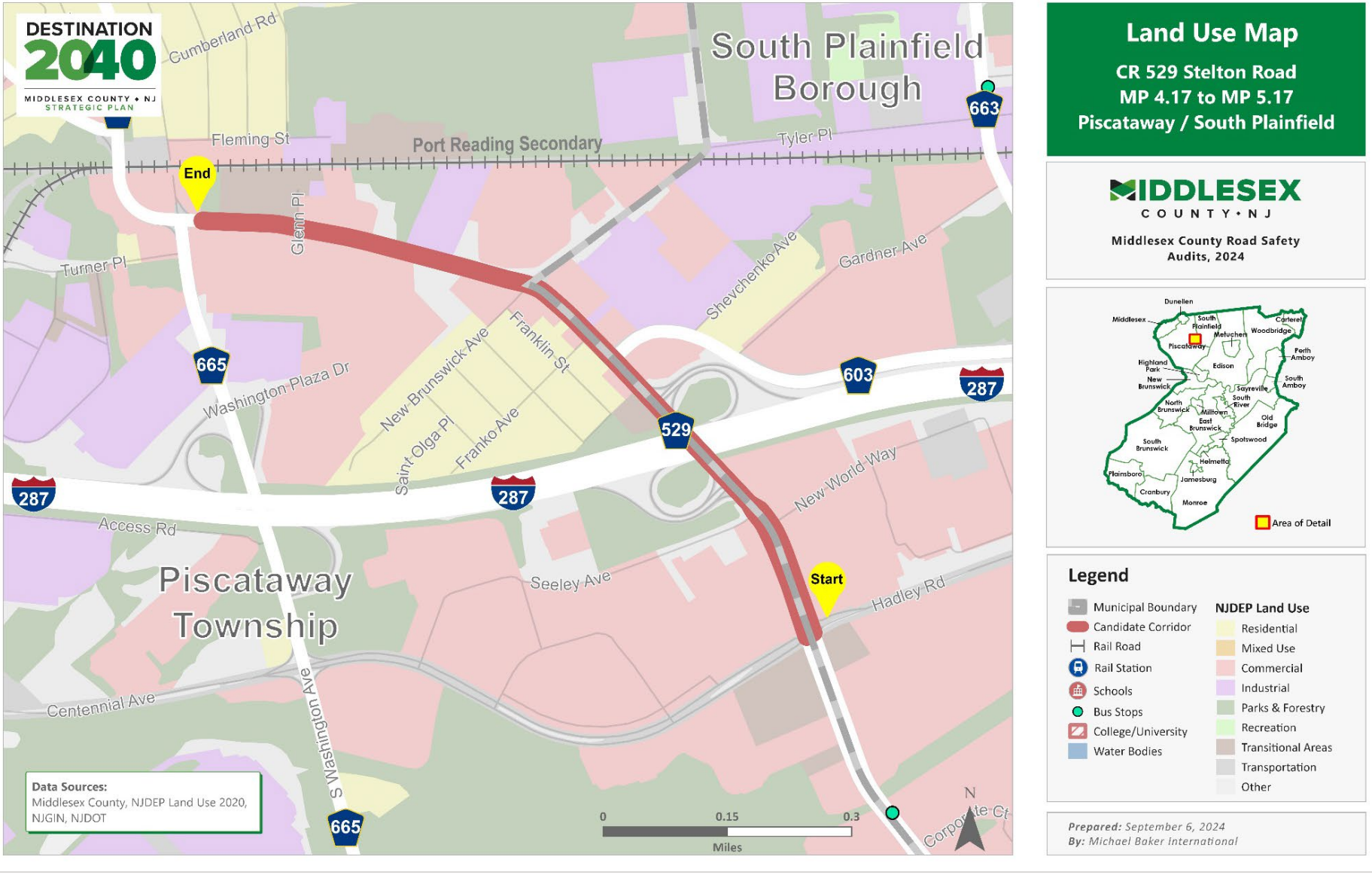


Figure 4. Stelton Road corridor land use map.

2.3 Community Profile

Demographic and socioeconomic data from the American Community Survey (ACS) were used to identify Environmental Justice populations while also providing points of comparison to the County as a whole, based on NJTPA's Equity Analysis methodology. Data from the 2018-2022 ACS was sourced from the U.S. Census for Piscataway, South Plainfield, and Middlesex County. The summary data from nine equity analysis factors is listed in **Table 1**, with percentages in bold denoting the equity factors where the municipalities had higher rates than Middlesex County as a whole, and percentages in light gray indicating the equity factors Piscataway and South Plainfield had lower rates than the County. In most categories, the Piscataway and South Plainfield populations had lower or comparable rates to the County. However, Piscataway's population has a higher rate of foreign-born and minority residents than Middlesex County, while South Plainfield has a higher rate of the population that is 65 years and over. Both Piscataway and South Plainfield have significantly lower rates of zero-vehicle households, which can be attributed to their suburban character.

Table 1. Equity Analysis Factors for Piscataway, South Plainfield, and Middlesex County. Source: US Census ACS 2018-2022.

	Piscataway	South Plainfield	County	NJTPA Region
Minority	**70.9%**	51.0%	60%	49.0%
Foreign Born	**36.3%**	23.9%	34.1%	26.5%
Low Income	12.0%	8.8%	18.7%	21.3%
Limited English Proficiency	14.3%	9.3%	15.7%	13.7%
Age 5 to 17	13.5%	13.1%	16.1%	16.1%
65 Years and Over	11.6%	**18.0%**	15.4%	16.4%
Disability	7.5%	9.7%	9.6%	9.8%
Female Population	50.5%	51.1%	50.3%	50.7%
Zero Vehicle Households	4.7%	3.1%	8.1%	12.1%

Using the demographic and socioeconomic data, an overall equity composite score was then calculated for the Stelton Road corridor (see **Figure 5**) based on NJTPA's Equity Analysis Methodology, with the data displayed across five composite score categories from low to high, ranging from the lowest (Well Below Average) to Average to the highest (Well Above Average). The study area census tracts range between "Below Average" in Piscataway and "Average" in South Plainfield.

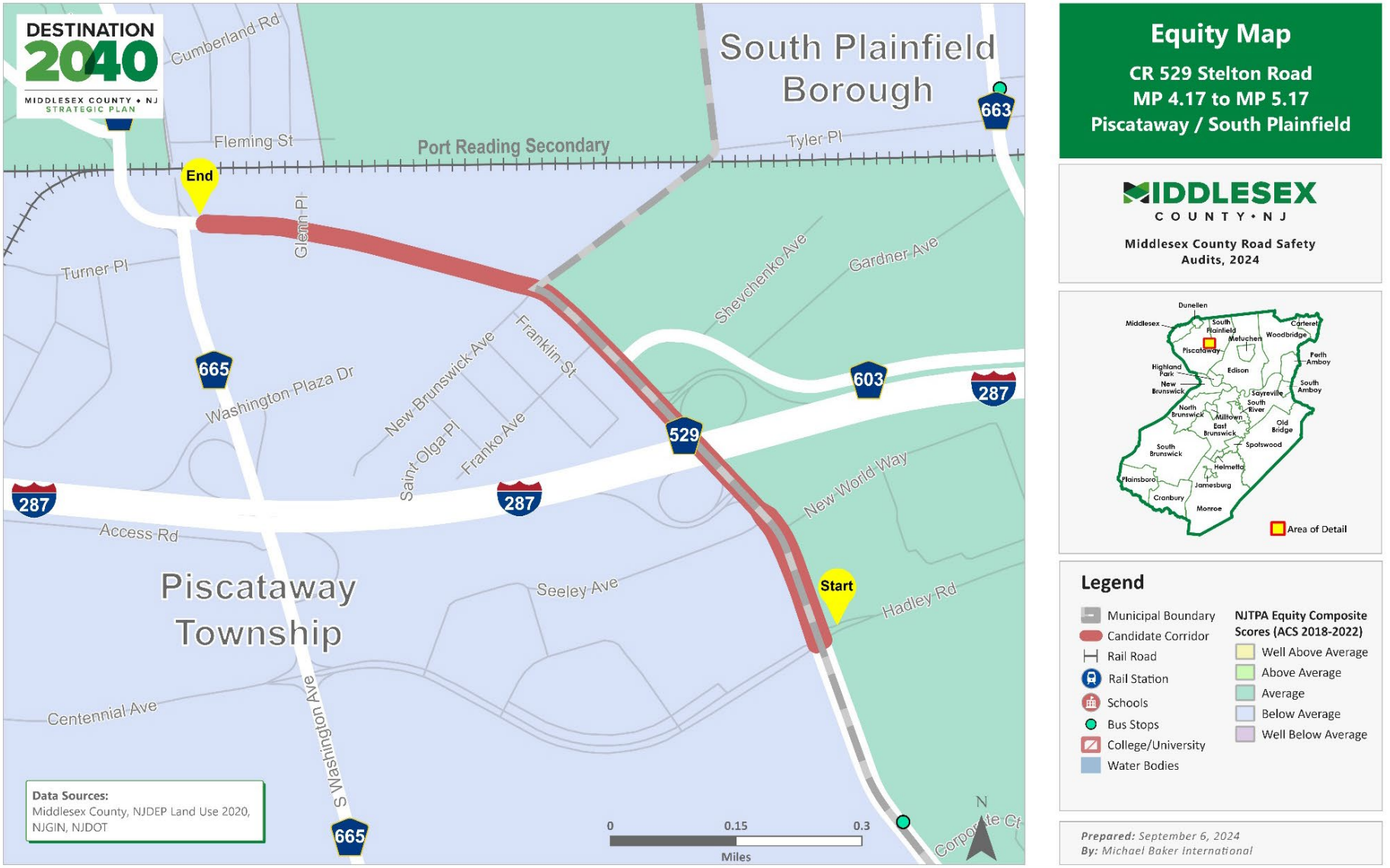


Figure 5. Stelton Road equity analysis map.

2.4 Roadway Characteristics

Stelton Road is an urban principal arterial with four motor vehicle travel lanes between MP 4.17 and 4.59 and five lanes between MP 4.59 and 5.17, with no on-street parking. The posted speed limit is 40 mph. Stelton Road is median divided from Centennial Avenue to approximately south of I-287 (MP 4.17 to 4.40). There are seven signalized intersections (Centennial Avenue/Hadley Road, I-287 South ramp, I-287 North ramp, Hamilton Boulevard, New Brunswick Avenue, entrance to the Shopping Center (Stop & Shop), and South Washington Avenue) and three unsignalized intersections with stop control on the minor approaches.

2.5 Traffic Volumes

Traffic data available from NJDOT showed a traffic count of 22,988 vehicles in 2019 on Stelton Road (Station ID 091215). Traffic volume data is included in **Appendix B**.

2.6 Existing Active Transportation (Pedestrian/Bicyclist) Accommodations

Stelton Road has a limited sidewalk network, with no sidewalks between Centennial Avenue/Hadley Road and New World Way. Sidewalks on the northbound side are continuous from New World Way and Glenn Place, but no sidewalks are provided north of Glenn Place. On the southbound side, there is a gap in the sidewalk network between the area north of the ramp to I-287 North and Hamilton Boulevard.

There are no existing dedicated bicyclist accommodations on Stelton Road. When using the NJTPA's Level of Bicycle Compatibility (LBC) analysis, which rates the roadway network on a scale from one to five indicating the traffic stress it imposes on bicyclists, Stelton Road has an LBC score of four. These roads are comfortable for only very skilled cyclists and are generally characterized by six or more lanes, or at least four lanes with no shoulder, and speed limits greater than 35 mph.

2.7 Transit Service

There are no bus stops within the Stelton Road study area. There is a NJ TRANSIT bus stop less than a quarter mile south of the Centennial Avenue/Hadley Road intersection for bus line 819, operating on a one bus per hour frequency, serving Piscataway, Plainfield, Edison, and Metuchen.

2.8 Stakeholders

The RSA team worked in collaboration with a Technical Advisory Committee (TAC) and local officials. The TAC served as a technical resource to the project team, providing necessary background documentation and insights about existing conditions. Members of the TAC included county, regional, and state governmental staff, and members of community-based

organizations. Similarly, the project team met with municipal representatives of each selected corridor prior to the RSAs for their insights on the existing conditions, including observed or known issues and potential opportunities for each corridor.

2.9 Outreach Efforts

The RSA outreach efforts were launched with a Public Engagement Plan (PEP), outlining key project team members and strategies to engage the local community, neighborhood groups, stakeholders, and local officials. The goal is to reach a wide range of audiences, including members of the public who have traditionally been underrepresented, to have an opportunity to understand the purpose and goals of the RSAs and provide input during the process.

Public outreach will consist of in-person engagement events and digital communications, including a project website and social media posts. The project website (http://www.middlesexcountynj.gov/roadsafety) contains the most up-to-date content, such as project background, opportunities to participate in the process, current study status, milestones, and draft and final reports. Social media posts will provide pertinent information in a more widespread format and link to the project website to drive additional feedback.

Anticipated engagement events include three TAC meetings and 10 local officials meetings, two for each of the chosen corridors. The first set of local officials meetings was conducted before the RSAs with each municipality. Public meetings will be held for each corridor for local community members and stakeholders. These meetings will be structured in an “open house” style format, allowing participants to engage more informally with project team members and providing opportunities for in-depth responses to questions.

3 CRASH FINDINGS

The following sections summarize key crash findings for the Stelton Road (CR 529) corridor. Crash data was obtained from NJDOT's Safety Voyager and Numetric for a five-year period, from the beginning of January 2019 to the end of December 2023, for pedestrian and bicycle crashes, and a three-year period, from the beginning of January 2021 to the end of December 2023, for motor vehicle crashes. Crash reports were requested from the Township of Piscataway and Borough of South Plainfield for the case (incident) numbers listed in the combined dataset, as well as any additional crash reports in the study area that the municipality held. The crash narrative and diagram included in the NJ-TR-1 form, as completed by the on-scene law enforcement, provided detailed accounts of the incident.

During the study period, there were 456 reported crashes within the study area. Crashes are summarized by type, severity, temporal factors, and roadway surface and lighting conditions, and compared to countywide crash data. The following safety issues were identified based on overrepresented crash characteristics when compared to countywide crash data:

- Same direction – sideswipe crashes;
- Left turn/U turn crashes;
- Encroachment crashes;
- Same direction – rear end crashes;
- Crashes occurring during dark – lighted conditions; and,
- Crashes occurring from 11 am to 3 pm.

A near-miss analysis was also performed at the Stelton Road and New Brunswick Avenue intersection to help better understand the existing conflicts and patterns at the intersection with the highest number of crashes within the study area. A crash diagram and summary table can be found in **Appendix C**. For more detailed crash information, including data analysis methodology, please see the Stelton Road Existing Conditions Report.

3.1 Crash Types

The most prevalent crash types on Stelton Road were Same Direction – Rear End (37.9 percent), Same Direction - Sideswipe (27.0 percent), and Right Angle (12.3 percent). See **Figure 6** for a full list of crash types.

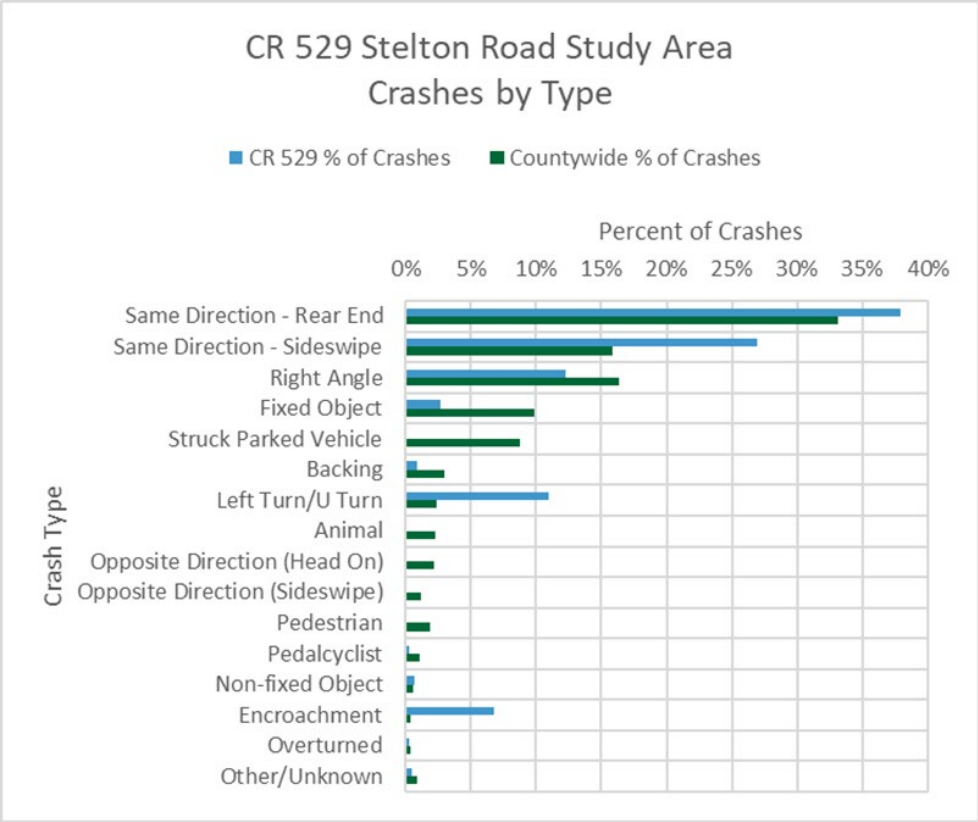


Figure 6. Stelton Road (CR 529) crashes by type.

Same Direction – Sideswipe and Left Turn/U Turn crashes are significantly overrepresented in the study area. See **Table 2** for the top overrepresented and reported crash types.

Table 2. Stelton Road (CR 529) top overrepresented and reported crash types.

Crash Type	Overrepresented Crash Rank	Observed Crash Rank	Percent of Crashes on CR 529	Percent of Crashes Countywide	Percent Overrepresentation
Same Direction – Sideswipe	Highest	Second highest	27.0%	15.8%	11.1%
Left Turn/U Turn	Second Highest	Not Ranked	11.0%	2.3%	8.6%
Encroachment	Third Highest	Not Ranked	6.8%	0.4%	6.4%
Same Direction – Rear End	Fourth Highest	Highest	37.9%	33.1%	4.8%
Right Angle	Not Ranked	Third highest	12.3%	16.4%	-4.1%

Encroachment and Same Direction – Rear End crashes were also overrepresented in the study area.

3.2 Crash Severity

The percentage of crashes by crash severity for the Stelton Road Corridor and countywide is listed in **Table 3**.

Table 3. Stelton Road (CR 529) crashes by severity.

Crash Severity	Number of Crashes	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
No Apparent Injury	363	79.6%	75.6%	4.0%
Possible Injury	56	12.3%	13.3%	-1.0%
Suspected Minor Injury	36	7.9%	9.6%	-1.7%
Suspected Serious Injury	1	0.2%	1.2%	-1.0%
Fatal Injury	0	0.0%	0.3%	-0.3%

A greater percentage of crashes in the study area resulted in no apparent injury (79.6 percent), or property damage only compared to the County (75.6 percent). During the study period, only one serious injury crash was reported, and no fatal injury crashes were reported.

3.3 Temporal Trends

The following graphs show the crash breakdown by month, day of the week, and time of day.

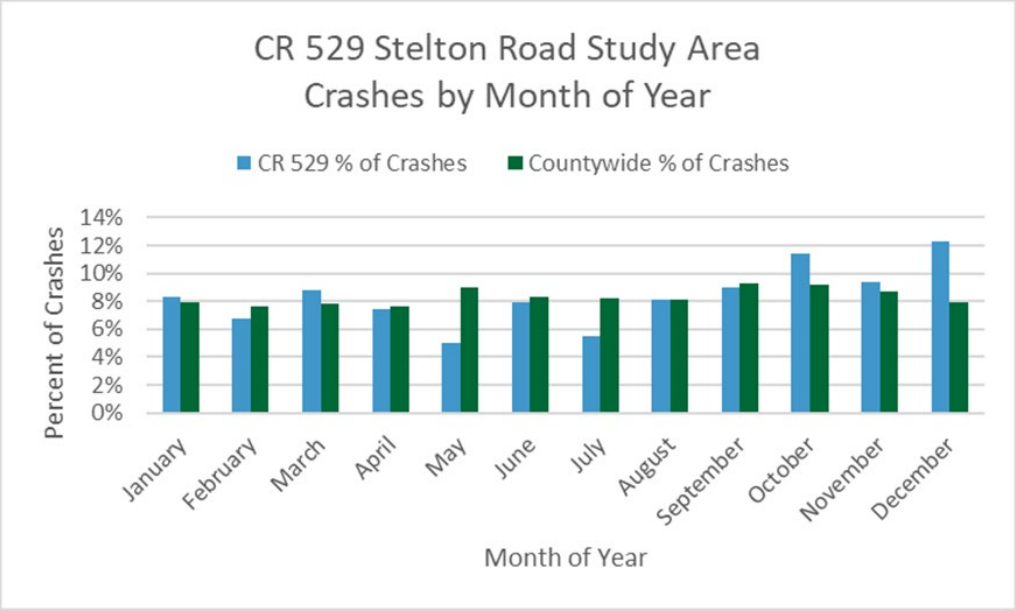


Figure 7. Stelton Road (CR 529) crashes by month of the year.

Figure 7 shows that A greater percentage of crashes along the corridor occurred in October through December (33 percent) compared to the average in Middlesex County (26 percent).

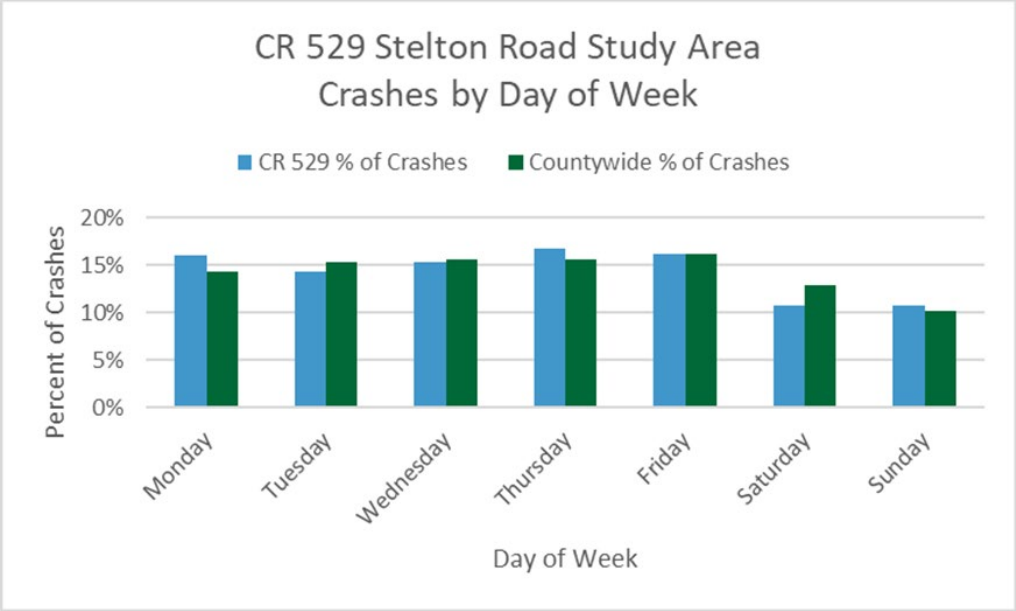


Figure 8. Stelton Road (CR 529) crashes by day of the week.

Figure 8 shows a higher percentage of crashes occurred on the study corridor on Mondays and Thursdays compared to countywide crashes.

Figure 9, below, depicts a comparison between the study area and countywide crash percentages by time of day.

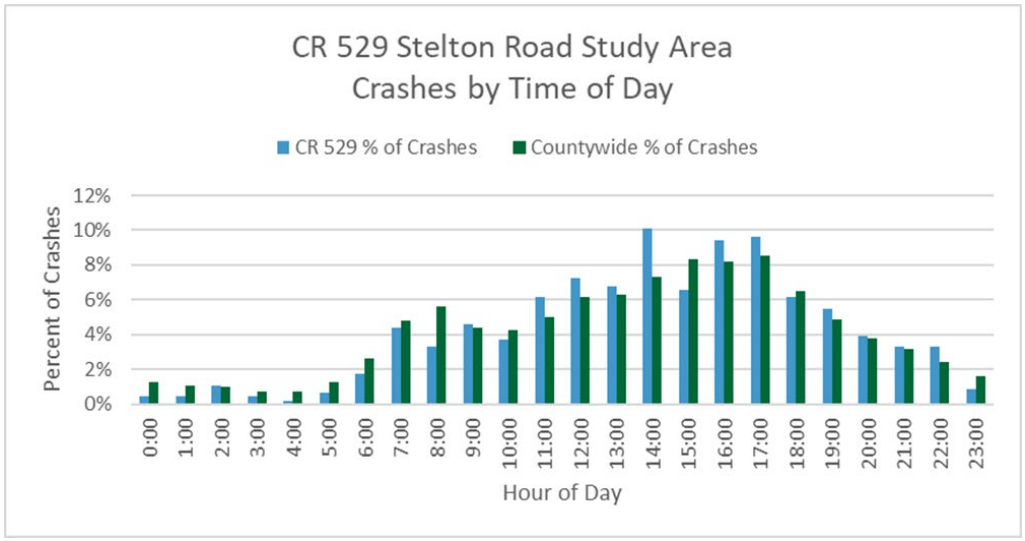


Figure 9. Stelton Road (CR 529) crashes by time of day.

Midday (11 am to 3 pm) is overrepresented compared to the average in Middlesex County. This peaking characteristic for crashes may be influenced by the numerous fast-food and consumer goods stores along the corridor, which attract significant traffic during these hours. Additionally, this trend may align with increased truck and port operations that typically occur

during the midday period. A further analysis of overall traffic volume during these hours could provide insight into whether heightened traffic activity contributes to the observed crash patterns.

3.4 Roadway Surface & Lighting Conditions

A greater percentage of crashes on Stelton Road occurred during dry road surface conditions (86.0 percent) compared to the baseline (82.3 percent). See **Table 4** for the percentage of crashes by road surface condition.

Table 4. Stelton Road (CR 529) crashes by roadway surface conditions.

Road Surface Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Dry	86.0%	82.3%	3.7%
Wet	12.3%	15.1%	-2.8%
Icy/Snowy/Slush	1.5%	1.9%	-0.4%
Other/Unknown	0.2%	0.7%	-0.5%

The percentage of crashes by light conditions is listed in **Table 5**.

Table 5. Stelton Road (CR 529) crashes by light conditions.

Light Condition	Percent of Crashes in Study Area	Percent of Crashes Countywide	Percent Overrepresentation
Daylight	70.4%	69.5%	0.9%
Dawn or Dusk	2.0%	4.2%	-2.2%
Dark - Lighted	27.0%	23.2%	3.8%
Dark - Not Lighted	0.7%	2.0%	-1.3%
Unknown	0.0%	1.1%	-1.1%

A greater percentage of Stelton Road crashes occurred during dark–lighted conditions (27.0 percent) compared to the countywide percentage (23.2 percent) under similar conditions.

3.5 Near Miss Analysis

The near-miss analysis was conducted for the Stelton and New Brunswick Avenue intersection. Data collection included 48 hours of video recording at the intersection, which was processed using artificial intelligence to flag near misses.



Figure 10. Stelton Road (CR 529) near-miss example.

A post-encroachment time (PET) was determined for each near miss, which measures the time between one road user leaving a given point on a roadway and a second road user arriving at the same point. A PET of zero seconds means that a crash occurred, while a long PET suggests that two road users passed through the same point of conflict but with a significant amount of time lapsed between both vehicles. Conflicts by mode and PET during the 48-hour observation period are listed in **Table 6**, with a total of 405 conflicts in a two-day period.

Table 6. Stelton Road (CR 529) intersection near misses by mode and PET, in seconds.

Conflict Mode	Post-Encroachment Time			Total Conflicts	Total Percentage
	0.10-1.49 seconds	1.50-1.99 seconds	2.00-3.00 seconds		
Vehicle-Vehicle	2	33	349	384	95.0%
Vehicle-Bicycle	0	0	7	7	2.0%
Vehicle-Pedestrian	3	4	7	14	3.0%
Total	***5***	***37***	***363***	***405***	***100%***

The majority of near-miss conflicts were vehicle-to-vehicle (95 percent). Vehicle and pedestrian conflicts comprised 60 percent of near-misses with a PET of less than 1.5 seconds.

The data was also analyzed to determine which movements most often resulted in near-misses at the intersection. Conflicts with A PET of 2 seconds or more were not included in the analysis as those vehicle-to-vehicle near-misses were associated with a protected left turn movement

and the subsequent opposing through movement. The movement types with the most near-misses with a PET of less than two seconds involved an eastbound left-turning vehicle turning in front of a westbound through vehicle, and a southbound left-turning vehicle turning in front of a northbound through vehicle.

3.6 Crash and Near Miss Data Finding Summary

Based on the crash data analysis, the crash types with the greatest PSI include same direction – sideswipe, left turn/U turn, encroachment, and same direction – rear-end crashes.

Many unsignalized intersections along Stelton Road do not have right or left turn lanes, and there are several closely spaced driveways, which may contribute to rear end crashes, as a trailing driver may not notice a leading driver slowing or stopping to turn right or left into a minor road or driveway. At the same time, the high traffic volumes and closely spaced access points along the corridor may lead to the overrepresented same direction – sideswipe crashes. Left turn/U turn crashes may occur when a driver misjudges the speed and distance of an oncoming vehicle, and/or becomes impatient waiting to turn left due to insufficient gaps in traffic. Tight intersection geometry or insufficient gaps in traffic may contribute to encroachment crashes.

Crashes during midday, occurring from 11 am to 3 pm, were overrepresented. These overrepresented time periods align with the increased activities at fast food restaurants, retail centers, and auto service businesses, as the major land uses are commercial.
Crashes that occurred during dark, lighted conditions were slightly overrepresented, suggesting the need for improved lighting at specific locations.

The near-miss conflict data analysis at the intersection of CR 529 Stelton Road and New Brunswick Avenue identified 12 movement combinations that conflicted with a post-encroachment time of less than two seconds, with the most conflicts, 13, occurring between eastbound left-turning vehicles and westbound through vehicles. During the crash data study period, there were 19 reported crashes between these movements.

4 RSA LOGISTICS

4.1 Audit Schedule

Participants were given a pre-audit briefing at the local officials' meetings to prepare for the in-person field visit component of the RSA. Participants were briefed on the audit itinerary, walking route, observations and takeaways from the project team's field visits, and general safety guidelines. The Stelton local officials meeting and pre-audit briefing took place on October 7, 2024, with Piscataway officials and on October 8 with South Plainfield officials. The local officials' meeting presentation is provided in **Appendix D**.

The RSA team convened on Wednesday, October 16, 2024, at 7:30 a.m. for the Stelton Road field audit. Participants met at a conference room in the Holiday Inn in South Plainfield. Following a summary of the orientation given during the pre-audit briefings, participants were given a safety vest and a corridor prompt list. The corridor prompt list consisted of several "yes/no" questions intended to prompt consideration of various topics, including sidewalk and roadway conditions, conflict points between drivers and pedestrians, lighting, driveways, intersection geometry, transit access, and overall perception of safety along the corridor. Audit materials are included in **Appendix E**.

An in-person debrief was held immediately after the audit to discuss findings and observations. Identified issues and improvements focused on operational and design aspects of the corridor suggested by audit participants in the field and/or through their completed prompt lists. Identified issues and improvements were categorized as either corridor-wide or location-specific and are presented in Section 5 of this report. Corridor-wide issues and treatments were observed at multiple locations throughout the study corridor, while site-specific issues and treatments focused on specific mid-block locations or intersections.

4.2 Audit Participants

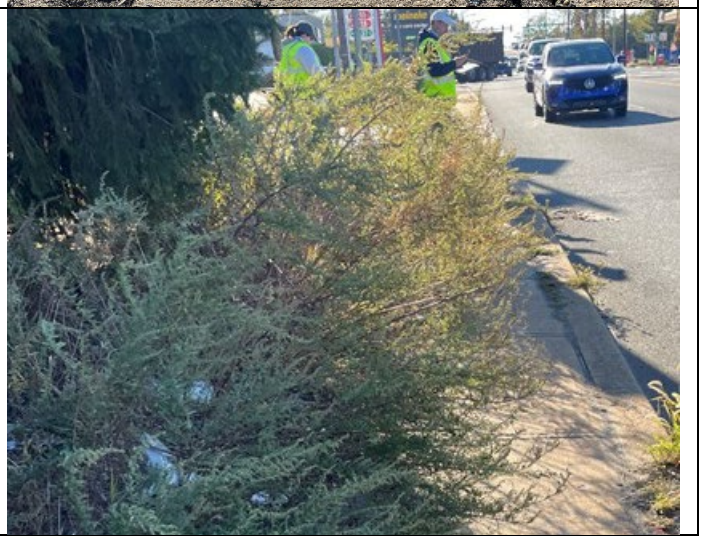
The RSA participants consisted of Middlesex County staff, the consultant project team, local officials and municipal staff, and staff representing the NJTPA, the Alan M. Voorhees Transportation Center (VTC), and the Keep Middlesex Moving (KMM) Transportation Management Association (TMA). Participants in attendance at each audit event, including the local officials meeting and the in-person audit, are listed in **Appendix F**.

5 IDENTIFIED ISSUES & OBSERVATIONS

The following is a summary of the identified roadway deficiencies and observations made by the audit team.

5.1 Corridor-wide

The audit team observed and discussed the following items at multiple locations.

Description	Photo Example
Substandard Sidewalks Sidewalk conditions varied throughout the corridor. Many locations had uneven and sometimes hazardous sidewalk conditions due to uneven settling, cracking, and deterioration, posing tripping hazards and ADA non-conformance.	
Maintenance Maintenance issues were observed throughout the corridor but were especially concentrated near the I-287 ramps. Overgrown brush within the segment between Hamilton Boulevard and New Brunswick Avenue narrowed the usable sidewalk area considerably. Debris was also an issue, especially at the I-287 overpass, where the existing sidewalks are already narrow and lack a buffer.	

Lane Striping and Edge Lines

Lane Striping and Edge Lines are not provided consistently throughout the corridor. This is a missed opportunity to achieve traffic calming benefits.



Long Pedestrian Crossings

Given the Stelton Road multi-lane cross-section, pedestrians must cross a minimum of four travel lanes and at times as wide as seven travel lanes due to the presence of dedicated turning lanes at intersections, medians, channelized turn lanes, and on- and off-ramps at I-287.

The intersection of Stelton Road and Centennial Avenue/Hadley Road, for example, (shown right) also includes slip lanes for right turns forcing pedestrians to make multi-staged crossings and sometimes having to wait in narrow refuge areas.

These intersections are difficult for older adults and those with mobility issues to navigate. Adequate and compliant crossing times should be confirmed, with multi-stage and/or compatible pedestrian refuge islands as needed.



Long Distance Between Crosswalks

While no midblock crossings were observed during the audit, the picture on the right, taken during the project team's field visits, shows a midblock crossing south of the New Brunswick Avenue intersection, which was anecdotally confirmed by audit members as a frequent occurrence throughout the corridor. This was noted as a common occurrence near the Centennial Avenue and Hadley Road intersections due to the various hotels along the roadway often being located across Stelton Road from the corridor's restaurants and fast-food establishments.



Crosswalk and Striping Condition

Several Crosswalks along the corridor are striped in the "standard" fashion, with parallel lines. These crosswalks are not considered high-visibility resulting in limited driver awareness of the crosswalk on the approach to an intersection

Many existing crosswalks are faded and/or lack high-visibility elements, further limiting driver awareness of pedestrians especially at night and during inclement weather.



Pedestrian Signal Heads & Push Buttons

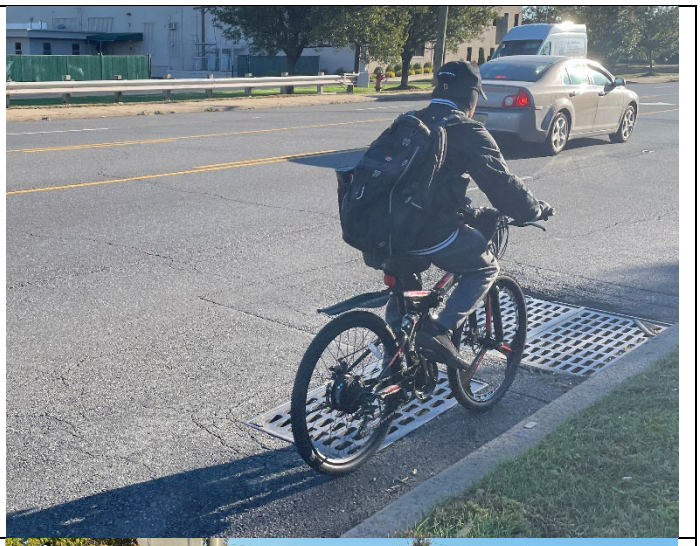
Pedestrian push buttons were inconsistently placed throughout the corridor In other places like the Hadley Road/Centennial Avenue intersection, pictured on the right, it is unclear which is the correct push button for the walk signal.



Shared Use of High-Speed Road by Vulnerable Users

Bicyclists and scooterists were observed during the audit sharing the road with vehicles. Within the study area, Stelton Road is a 40-mph corridor and a designated truck route.

Mixing among these travel modes on a high-speed road without adequate protection and/or separation poses risks and challenges for vulnerable road users.



Incomplete Sidewalk Network

Sidewalks are missing at the following locations:

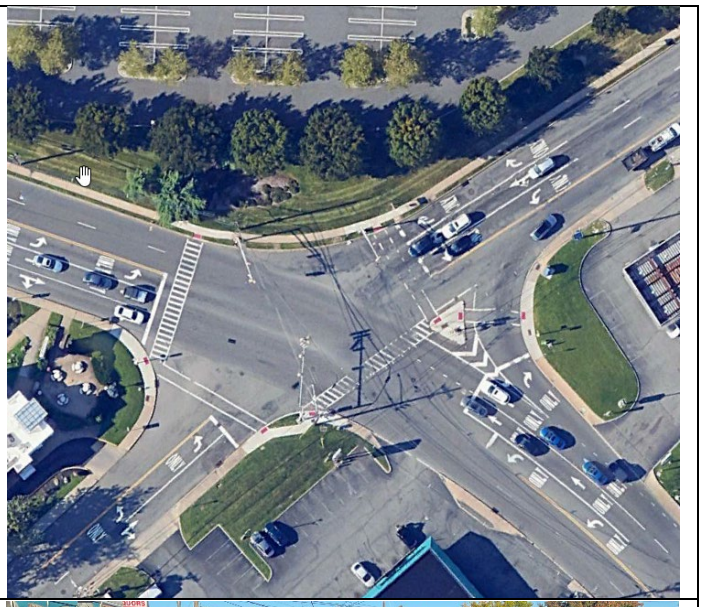
- Between Centennial Avenue/Hadley Road and New World Way on the northbound side, and between Centennial Avenue/Hadley Road and Seeley Avenue on the southbound side.
- On the southbound side, between the ramps to I-287 North and Hamilton Boulevard (shown at the right).
- On the northbound side, between Glenn Place and the new Wawa establishment.



Insufficient Lighting

Though the audit took place during the daytime, the team noticed the lack of lighting along the corridor which was also confirmed by the audit participants from the Police Department, who noted that most of the lighting in the corridor between the Centennial Avenue/Hadley Road intersection comes from the adjacent parking lots rather than direct overhead or pedestrian-scale lighting of sidewalks and crosswalks.



Large Turning Radii at Intersections Large turning radii are provided to accommodate larger vehicles making turning movements. However, these large turning radii also allow high-speed right turns inconsistent with the local context, compromising pedestrian safety at crosswalks. The aerial on the right shows the New Brunswick Avenue intersection.	
Driveways Sidewalks were not continuous through driveway aprons, with driveway slopes forcing pedestrians to walk further into the lots for even terrain and to avoid conflicts with turning vehicles. Several businesses adjacent to or within intersections have multiple wide driveways potentially increasing conflicts and reducing pedestrian space.	

5.2 Location-specific

The following items were location-specific and were discussed by the audit team at specific intersections or mid-block locations.

Description	Photo Example
Location: New World Way • Truck parking within the parking lots along the northbound side of Stelton Road can interfere with sight distance at New World Way and for drivers exiting the lots onto Stelton Road.	
Location: I-287 Ramps • Vehicles making a right turn into the I-287 North ramp (shown on the right) have limited visibility of the crosswalk due to its location. A large corner radius enables vehicles to make the right turn into the ramp at higher speeds, lessening the reaction time if a pedestrian is within the crosswalk. • For vehicles making a left turn onto the I-287 ramps at both signals, there is also limited visibility of oncoming vehicles due to the vertical curve of the bridge.	

Location: Hamilton Boulevard • Large vehicles making right turns from Stelton to Hamilton Boulevard are forced to make wide turns due to the corner radius and trucks often drive over the corner curb space, damaging the curbing, pavement, and drainage inlets. • Members of the audit anecdotally mentioned that this location frequently inflicts damage to truck tires. A considerable amount of wear and tear was observed on the corner and catch-basin, exposing sharp metal edges that can cause tire flatting incidents and sometimes resulting in significant safety and queueing impacts.	
Location: New Brunswick Avenue • The 'Right Turn on Red' sign is not MUTCD compliant due to the font.	
Location: Southbound side of Stelton Road, between New Brunswick Avenue and Glenn Place • Ponding of water was observed outside 560 Stelton Road, indicating poor drainage. • Gaps and cracked pavement around drainage grates.	 

Location: South Washington Avenue

- Dual right and left-turn lanes at the South Washington Avenue intersection are not clearly delineated through the intersection. Audit members observed trucks utilizing both lanes simultaneously to make turns from South Washington to Stelton Road, encroaching on the adjacent lane due to lack of clear lane delineation.
- Significant congestion at the intersection due to an at-grade freight rail crossing just 500 feet north of the intersection.



6 FINDINGS & RECOMMENDATIONS

Recommendations were formulated based on existing conditions, data findings, and the identified issues and observations discussed and recorded during the safety audit and the post-audit debrief. Recommendations are organized into two groups: corridor-wide and site-specific. Corridor-wide recommendations are prescribed for issues identified along multiple locations throughout the corridor, while site-specific recommendations are more targeted, focusing on specific intersections or segments.

6.1 Implementation Matrix (Recommendations)

The Implementation Matrix lists the findings and recommendations made by the RSA Team and County staff. Recommendations have a corresponding order of magnitude cost, timeframe, and jurisdiction to assist with project prioritization and implementation. The recommendations in bold font are an FHWA Proven Safety Countermeasure (PSC) that includes a collection of 28 proven strategies to reduce serious injury and fatal crashes.[2] Ultimately, these recommendations should be evaluated and designed for the roadway context by the roadway owners and/or a professional engineer according to applicable codes, standards, and best practices.

Table 7. Implementation Matrix Legend

Symbol	Meaning	Definition
$	Low Cost	Maintenance and simple road repairs.
$$	Medium Cost	May require engineering or design work.
$$$	High Cost	Longer-term projects that might require full engineering and ROW acquisition.
🕐	Short Term	Could be accomplished within one year.
🕐🕐	Medium Term	Could be accomplished within one to three years and may require some engineering.
🕐🕐🕐	Long Term	Could be accomplished within three or more years and may require full engineering.

[2] https://highways.dot.gov/safety/proven-safety-countermeasures

Table 8. Stelton Road recommendations.

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Stelton Road - Corridor Wide				
1	**Upgrade signal heads to include backplates with retroreflective borders.**	**$**	🕐	State, County
2	**Consider conducting a lighting analysis to identify specific locations in need of lighting upgrades.**	**$$**	🕐🕐	Municipality
3	**Conduct a sidewalk assessment to identify specific locations where the sidewalks need repair, replacement, or construction.[3]**	**$$**	🕐🕐	Municipality
4	Conduct a curb ramp assessment to identify specific locations in need of upgrades for ADA compliance.	**$$**	🕐🕐	County, Municipality
5	Conduct a sign inventory, checking for placement, condition, and retro-reflectivity, and replace/add/remove signs as needed based on MUTCD requirements.	**$$**	🕐🕐	County
6	Establish a pedestrian Maintenance of Traffic (MOT) plan for development applications or any construction project that impacts the continuous pedestrian access along the roadway.	**$$**	🕐🕐	County
7	**Revise the County's standard driveway apron design for development applications, including sidewalk treatment/materials carried through the driveway and ADA-compliant sidewalk treatments, to apply to all new development and redevelopment projects on County roads including single-family and multi-family residential developments.**	**$**	🕐	County
8	Provide sidewalk buffer between curb and sidewalk.	**$$$**	🕐🕐🕐	Municipality, Property Owner
9	**Consider Leading Pedestrian Intervals (LPIs) at all signalized intersections.**	**$**	🕐	State, County
10	**Stripe edge lines.**	**$**	🕐	County
11	Implement No Turn on Red (NTOR) at signalized intersections throughout the corridor.	**$**	🕐	County, Municipality
12	Consider jurisdictional agreements related to signals and signs.	**$$**	🕐🕐	County, Municipality

[3] The County neither constructs nor maintains sidewalk along a County road. Maintenance of sidewalks is the responsibility of the adjacent property owner, and municipalities may enforce maintenance by local ordinance. Municipalities can also construct sidewalks and have the legal ability to assess property owners for the cost.

Rec No.	Recommendation	Cost	Time frame	Jurisdiction
13	Evaluate corridor-wide signal phasing to eliminate conflicts between pedestrian crossings and multi-lane permitted turning movements. Consider changing multi-lane permitted turning movements to protected-only movements.	**$$**	🕐🕐	County
14	Convene a Railroad Crossing Diagnostic team to evaluate safety and operations at the at-grade railroad crossing, just north of the corridor.	**$**	🕐	State
15	**Identify strategies to reduce vehicular operating speeds through design and driver feedback elements including speed feedback signs and/or narrower lanes (striping).**	**$$**	🕐🕐	County
Centennial Ave/Hadley Road				
16	**Stripe a high-visibility crosswalk from the SE corner to the NE corner of the intersection at the Hadley Road approach.**	**$**	🕐	County
17	**Restripe a high-visibility crosswalk on Centennial Avenue (SW corner to NW corner).**	**$**	🕐	County
18	**Investigate feasibility of a pedestrian refuge island on Centennial/Hadley and/or Stelton Road.**	**$$**	🕐🕐	County
19	**Construct sidewalks at all intersection approaches.**	**$**	🕐🕐	Municipality, Property Owner
20	**Upgrade signal heads to include backplates with retroreflective borders.**	**$**	🕐	County
21	Evaluate existing signal timing to ensure that pedestrian crossing time is in accordance with MUTCD guidelines of 3.5 feet per second.	**$$**	🕐	County, Municipality
22	Restripe left travel lane on Hadley Road westbound to show skip lines to channelize the upcoming dedicated turn lane to drivers.	**$**	🕐	Municipality
23	Implement No Turn on Red (NTOR) at signalized intersection with Centennial Avenue.	**$**	🕐	County, Municipality
24	Provide far-side overhead signal indication over each receiving lane on both northbound and southbound Stelton Road.	**$$**	🕐🕐	County, Municipality

Rec No.	Recommendation	Cost	Time frame	Jurisdiction
Centennial Ave/Hadley Road to Seeley Avenue				
25	Construct ADA-compliant sidewalks on both the northbound and southbound alignments and across driveway aprons. Connect to the existing sidewalks on New World Way.	**$**	🕐🕐	Municipality, Property Owner
26	Coordinate with utility companies to improve corridor lighting.	**$**	🕐🕐	Municipality
27	**Investigate the possibility of adding a Pedestrian Hybrid Beacon (PHB) mid-block crossing between Centennial Ave/Hadley Road and I-287.**	**$$**	🕐🕐	County, Municipality
28	**Stripe stop bars, crosswalks, and centerlines at New World Way and Seeley Avenue.**	**$**	🕐	Municipality
I-287 South Ramps to I-287 North Ramps				
29	Consider a traffic study to evaluate the feasibility of implementing protected left turns due to limited sight distance at both the I-287 South and I-287 North ramps. This recommendation requires NJDOT approval.	**$$**	🕐🕐	State
30	Upgrade signal heads to include backplates with retroreflective borders.	**$**	🕐🕐	State
31	Consider revising the geometry of both ramps to enhance driver sightlines. Relocate the ramp crosswalks closer to Stelton Road to improve sight lines between approaching vehicles and crossing pedestrians. Stripe high-visibility crosswalks.	**$$$**	🕐🕐🕐	State
32	Relocate the crosswalk across Stelton Road south of the intersection between Stelton and the 1-287 northbound exit ramp, to north of the intersection to reduce pedestrian exposure.	**$$**	🕐🕐	State
33	Coordinate with NJDOT to implement a regular maintenance program to clear debris from the sidewalks and trim overgrown brush.	**$**	🕐🕐	State
34	Prepare an NJDOT Problem Statement to evaluate potential changes to the interchange configuration, encompassing Hamilton Boulevard.	**$$$**	🕐🕐🕐	State

Rec No.	Recommendation	Cost	Time frame	Jurisdiction
35	Relocate the existing Pedestrian Warning sign at the I-287 northbound entrance ramp, from the right side of the crosswalk to the left side, on the channelizing island, when exiting from northbound Stelton Road. Install a supplemental Pedestrian Warning Sign (W11-2) on the left hand side of the I-287 northbound exit ramp approach to NB Stelton Road; the left side of the I-287 southbound entrance ramp, adjacent to the existing crosswalk; and on the left side of the I-287 southbound exit ramp approach to SB Stelton Road.	**$**	🕐🕐	State
Hamilton Boulevard				
36	**Upgrade signal heads to include backplates with retroreflective borders.**	**$**	🕐	State
37	Consider increasing the SE corner radius to accommodate large right-turning vehicles from Stelton to Hamilton.	**$**	🕐	State
38	Consider a mountable truck apron at the SE corner to accommodate large vehicles.	**$**	🕐	State
39	Replace the drainage inlet at the SE corner with a flat inlet outside of the curbline.	**$**	🕐	State, County
40	Consider striping dashed lane line extension markings through the intersection for turning lanes.	**$**	🕐	State
41	Consider relocating the crosswalk on Hamilton Boulevard to increase pedestrian visibility to right-turning vehicles.	**$**	🕐	State
42	Coordinate with the Meineke property owner to relocate or reconfigure the signage on the SE corner of the intersection.	**$**	🕐🕐	County, Property Owner
43	Consider moving the stop bar on Hamilton Boulevard farther back from the intersection to accommodate large truck turning movements.	**$**	🕐	State
44	**Construct sidewalk on the southbound side by the Shell gas station across from Hamilton Boulevard to complete the sidewalk network.**	**$**	🕐🕐	Municipality, Property Owner
45	**Consider a dedicated right turn lane on Stelton Road.**	**$$**	🕐🕐	State
46	Provide advance guidance such as signs and pavement markings on the Hamilton Boulevard approach to Stelton Road to denote that access to I-287 north should use the left left-turn lane, while access to I-287 south should use the right left-turn lane (the center lane).	**$**	🕐	State

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
Hamilton Boulevard to New Brunswick Avenue				
47	**Stripe a high-visibility crosswalk, stop bar, and centerlines at the Franko Avenue approach to Stelton Road.**	**$**	🕐	Municipality
48	Perform maintenance on the property at the SW corner of Franko Avenue to ensure that brush overgrowth and debris does not encroach on sidewalk space or onto roadway space on Franko Avenue.	**$**	🕐	Municipality, Property Owner
49	**Consider prohibiting left turns both from Franko Avenue and left turns from Stelton Road to Franko Avenue. Implement right-in, right-out.**	**$**	🕐🕐	County, Municipality
50	Perform vegetation maintenance on the northbound side of Stelton Road, north of the LUKOIL gas station, trimming back overgrown brush.	**$**	🕐	Municipality, Property Owner
New Brunswick Avenue				
51	**Upgrade signal heads to include backplates with retroreflective borders.**	**$**	🕐	County
52	Consider reducing corner radii to slow right turns.	**$$**	🕐🕐	County
53	**Stripe high-visibility crosswalks on New Brunswick Avenue, checking alignments for optimal pedestrian crossing distance and visibility.**	**$**	🕐	County
54	Consider relocating traffic signal cabinet.	**$$**	🕐🕐	County
55	Provide clear lane line extension guidance for left-turning traffic from southbound New Brunswick Avenue.	**$**	🕐	County
56	Revise the signal phasing from protected-permissive to protected only for dual left turn lanes, or consider split phasing.	**$$**	🕐🕐	County
57	Consider protected only phasing for eastbound left turns.	**$$**	🕐🕐	County
New Brunswick Avenue to Glenn Place				
58	**Stripe high-visibility crosswalk at the shopping plaza entrance (former Stop & Shop).**	**$**	🕐	Municipality, Property Owner
59	**Construct concrete sidewalk across driveway aprons, complying with ADA guidelines. Provide frontage zone for sidewalks.**	**$**	🕐🕐	Municipality, Property Owners
Glenn Place				
60	Install ADA compliant curb cuts and ramps with proper alignments.	**$**	🕐	Municipality

Rec No.	Recommendation	Cost	Timeframe	Jurisdiction
61	**Stripe high-visibility crosswalk at the Glenn Place approach.**	**$**	🕐	Municipality
Glenn Place to South Washington Avenue				
62	**Construct sidewalk west of Glenn Place to complete the network on the northbound side.**	**$**	🕐🕐	Municipality, Property Owner
South Washington Avenue				
63	**Upgrade signal heads to include backplates with retroreflective borders.**	**$**	🕐	County
64	**Stripe high-visibility crosswalk across S. Washington Avenue.**	**$**	🕐	County
65	**Consider an intersection improvement study at both South Washington Avenue and Turner Place, to evaluate volumes, geometry, number of lanes, signal improvements, drainage, and striping.**	**$$**	🕐🕐	County
66	**Construct sidewalks at the NW corner of the intersection to the project's northern limit.**	**$**	🕐🕐	Municipality, Property Owner
67	Revise signal phasing at Turner Place to accommodate vehicles turning left from northbound Stelton Road onto South Washington Avenue.	**$$**	🕐🕐	County, Municipality
68	Install a "No Turn on Red Arrow" sign on mast arm for the right turn slip ramp on eastbound Stelton Road.	**$**	🕐	County

6.2 Potential Funding Sources

Some safety enhancement concepts may be implemented using signs and paint. These tend to be low-cost and are assumed to be completed with County staff and maintenance budgets. For larger projects, external funding may be required. There are several state and federal programs available to fund road safety improvements. This section provides a brief overview of several funding sources, including applicant requirements and the types of projects typically funded. Funding programs are subject to change. Additional information can be found by clicking on the link below each program.

6.2.1 Local Safety Program

The Local Safety Program (LSP) is a federally funded program supporting the construction of cost-effective and high-impact safety improvements on county and local roads. This program focuses on implementing FHWA Proven Safety Countermeasures (PSC), which are included as part of the safety recommendations in this report. Eligible projects include new traffic signals, road diets, roundabouts, curb extensions, pedestrian signals, and bike lanes. NJTPA subregions can receive application assistance through the Consultant Assistance Program, a year in advance of the LSP solicitation. Consultants can help with required application elements like traffic data collection, crash diagrams, environmental impacts, alternatives analysis, and conceptual layouts.

The LSP application considers RSAs in the “Past Studies” portion of Section 3, awarding one point in the project scoring form for corridors that have undergone an RSA. The RSA process also produces data required for the application, including crash diagrams and recommended PSCs.

https://www.njtpa.org/LSP.aspx

6.2.2 Safe Streets and Roads for All

The Safe Streets and Roads for All (SS4A) was established by the Bipartisan Infrastructure Law (BIL) with $5 billion in appropriated funds for over five years to support initiatives that prevent serious injury and fatal crashes. The program is currently anticipated to continue until FFY 2026. The program offers Planning and Demonstration Grants and Implementation Grants. Because the County has already adopted the Vision Zero Safety Action Plan, the Planning and Demonstration Grant can be used to fund supplemental planning or demonstration activities that support the Action Plan including action plan updates, follow-up data collection and safety analysis, progress reporting, feasibility studies, MUTCD engineering studies, and behavioral or operational activity pilot programs. The Implementation Grant funds projects and strategies identified in the Action Plan. Eligible Implementation Grant projects include low-cost safety treatments like striping and road diets, improving pedestrian networks with lighting and high-

visibility pavement markings, speed management, bike network development, and other infrastructural, behavioral, and operational activities.

The design recommendations in this memo, illustrated in the conceptual plan, can be used for an implementation grant application as they are consistent with the Middlesex County Vision Zero Action Plan action items. Other recommendations to conduct additional safety studies or inventory the current network can be funded through either a Planning and Demonstration Grant or an Implementation Grant.

https://www.transportation.gov/grants/SS4A

6.2.3 Transportation Alternatives Program

The Transportation Alternatives Set-Aside program offers federal funds for non-traditional surface transportation projects. Counties and municipalities are eligible to apply. Projects are recommended to have a requested funding amount greater than $1.5 million. Funds are provided on a reimbursement basis, and projects must be authorized for construction within two years of the grant notification and have formal community support with letters or resolutions of support dated within one year of the application solicitation letter date.

The County would be eligible for funding the improvements recommended in this report under categories 1 and 5, summarized below:

- Design and construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation including new or reconstructed sidewalks and curb ramps, bike lane striping, bike parking and bus racks, and bike and pedestrian bridges and underpasses.
- Community improvement activities including lighting, historic sidewalk paving, benches, planting containers, decorative walls, and walkways.

https://njdotlocalaidrc.com/federally-funded-programs/transportation-alternatives

6.2.4 Safe Routes to School (SRTS)

The Safe Routes to School (SRTS) Program is federally funded by the FHWA and administered by the NJDOT in partnership with the NJTPA, for infrastructure projects enabling K-12 students to walk and bike safely to school, making bicycling and walking to school a more appealing and accessible transportation alternative, and facilitating projects that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Counties, municipalities, and school districts can apply to the program for projects within two miles of a K-12 school. Projects may include ADA-compliant sidewalks and curb ramps, crosswalk

installation, pedestrian pushbuttons and signal heads, bike paths, bike parking, striping, lighting, signals, school zone delineations, and other traffic calming improvements.

SRTS funds are provided on a reimbursement basis. It is recommended that projects have a requested funding amount between $300,000 and $1 million. Projects must be authorized for construction within two years of the grant notification and have community and school district support. The municipality where the project is located should also adopt a Complete Streets Policy to demonstrate a commitment to safety. An SRTS handbook can be found on the NJDOT's Local Aid Resource Center website.

https://njdotlocalaidrc.com/federally-funded-programs/safe-routes-to-school

6.2.5 Local Freight Impact Fund Grant

NJDOT's Local Freight Impact Fund (LFIF) Grant Program is designed to help counties and municipalities mitigate the impact of freight transportation on local roads. The five program categories are:

- **Bridge Preservation**, to improve ratings/conditions in support of large truck traffic
- **New Construction**, in support of large truck traffic
- **Pavement Preservation,** to improve pavement condition in support of large truck traffic
- **Truck Safety and Mobility**, to improve large truck access, routing, and mobility along the County roadway system
- **Pedestrian Safety** to improve pedestrian safety and access

To be eligible for this grant, the project must be within the applicant's jurisdictional limit (unless a joint application is filed), the project must provide access to a freight node, and there must be a minimum of 10 percent large truck volume within the corridor limits when compared to the total ADT.

While this grant is more restricted in scope, focusing on freight transportation, it may be worth exploring locations with heavy truck traffic, as the program can fund several safety improvements recommended in this report, especially in locations with pedestrian and truck conflicts. Eligible improvements under the pedestrian safety category include through crosswalks, pedestrian-activated traffic signals, ADA improvements, traffic calming measures, crossing islands, curb extensions, improved lighting, improved signage, constructing or connecting pedestrian routes, sidewalk reconstruction or replacement, and improving hazard conditions for pedestrians.

https://njdotlocalaidrc.com/state-funded-programs/local-freight-impact-fund

6.3 Conceptual Plan

A conceptual “sketch” or “planning-level” plan showing the recommended physical design elements for Stelton Road is included in **Appendix G**. Please note that the plan is intended to illustrate potential future conditions based on audit recommendations found in Section 6 – Findings & Recommendations and is not meant as engineering drawings.

7 CONCLUSION

The Stelton Road RSA Report identifies road safety issues along the corridor from Centennial Avenue/Hadley Road to South Washington Avenue, using crash data, roadway characteristics, traffic counts, and experiential data gathered from the RSA events to prescribe safety countermeasures to reduce serious injury and fatal crashes. The data collection process was augmented by stakeholder input and feedback, which highlighted safety issues that were not evident through the data alone.

Corridor recommendations were developed through a collaborative process involving coordination among the Project Team, the RSA Team, and the County Staff to address the issues identified through the safety audits and the crash data. General corridor recommendations were made for issues consistently observed throughout the corridor, like faded crosswalks and a lack of pedestrian signals, while site-specific recommendations were made for key mid-block locations and intersections and gaps in the sidewalk network. Recommendations have an associated order of magnitude cost, implementation timeframe, and responsible jurisdiction to assist the County with project prioritization and implementation. Conceptual plans, based on audit recommendations, were also created to help illustrate potential future corridor conditions.

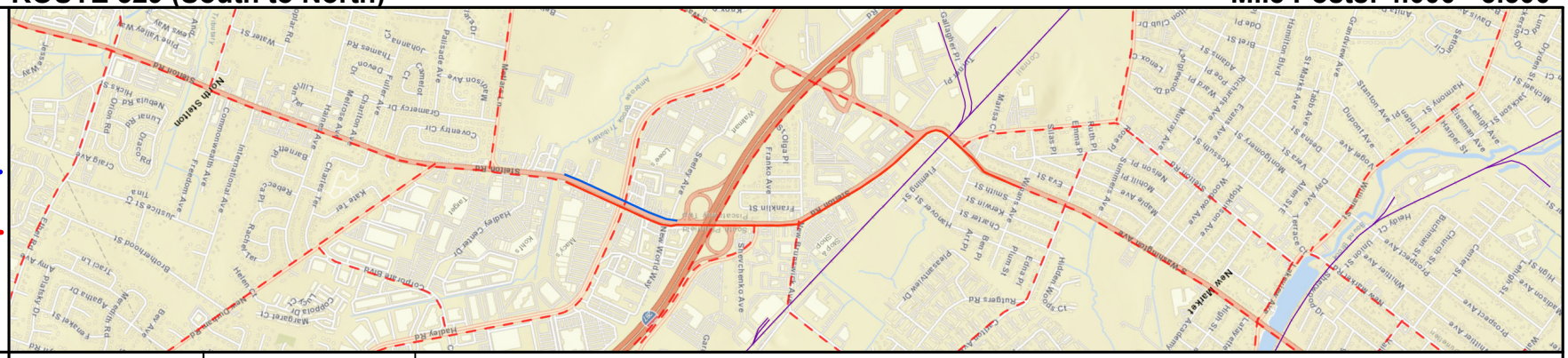
The safety improvements recommended in this report are consistent with the County's Vision Zero Safety Action Plan to reduce serious injuries and fatalities on County roadways. A variety of short-term and long-term interventions are recommended so that small steps can be taken incrementally to improve safety for all road users in Middlesex County.

Appendix A

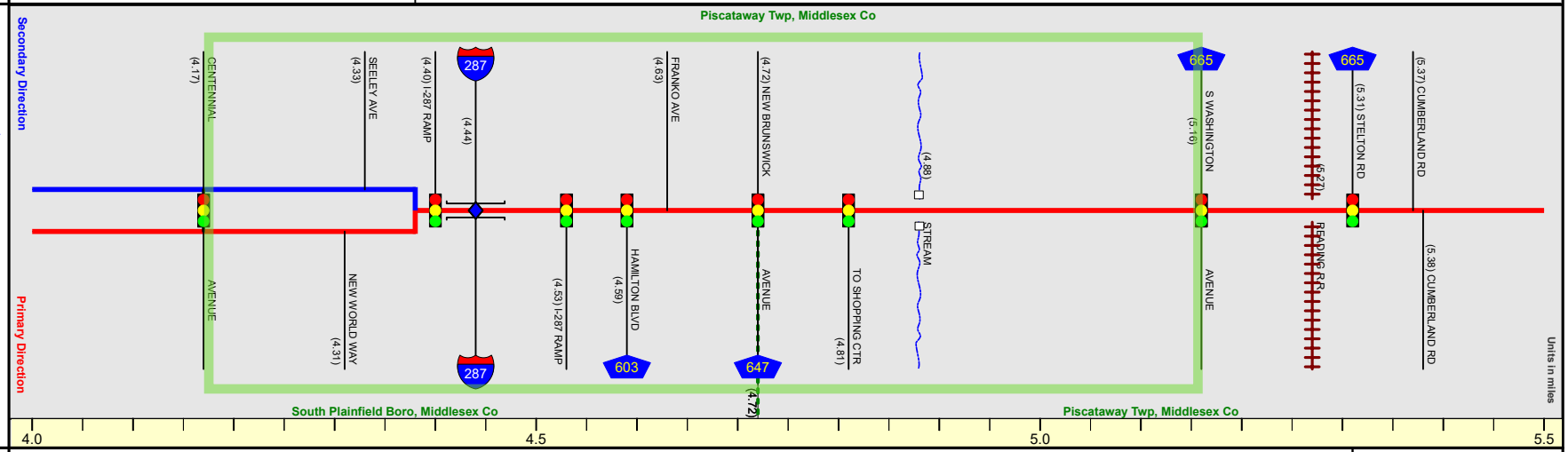
Straight Line Diagram

ROUTE 529 (South to North)

Mile Posts: 4.000 - 5.500



Pavement	22	36	
Shoulder			
Number of Lanes	2		
Speed Limit	40		
Street Name	Stelton Road		



Street Name	Stelton Road						Washington Avenue	
Jurisdiction	County							
Functional Class	Urban Principal Arterial							
Federal Aid - NHS Sy	NHS							
Control Section								
Speed Limit	40							
Number of Lanes	2		4				2	
Med. Type	Curbed		None					
Med. Width	VAR							
Pavement	36	28	48	60			36	28
Shoulder								6
Traffic Volume								
Traffic Sta. ID								
Structure No.		1231160						
Enlarged Views								

SRI = 00000529__

Date last inventoried: November 2012

Page Created: June, 2020

Appendix B

Traffic Data

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 04/23/2019 to 04/26/2019

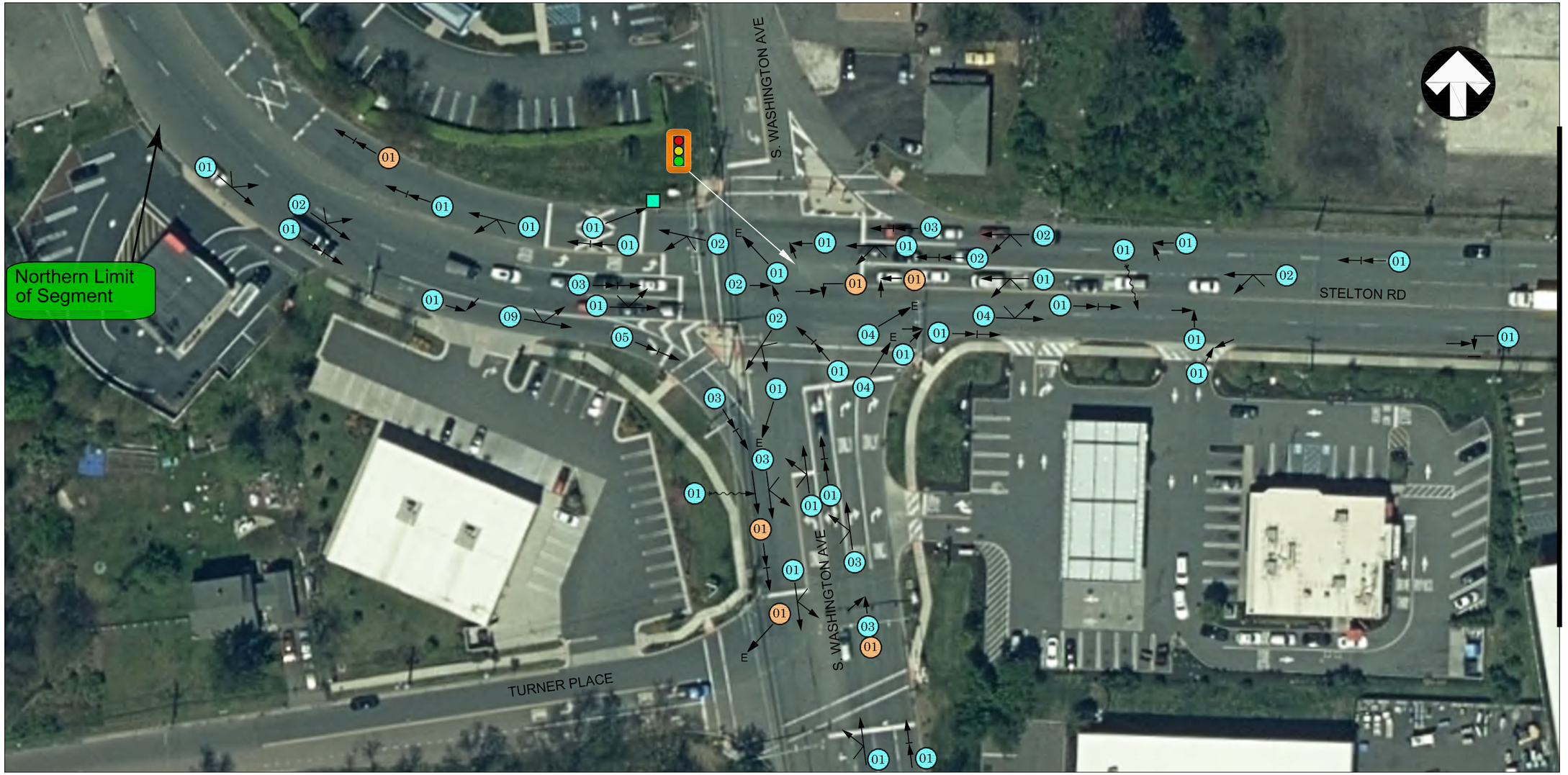
Site names:	091215,Stelton Road-5.06,00000529__	Seasonal Factor Grp:	rg1_3U
County:	MIDDLESEX	Daily Factor Grp:	rg1_3U
Funct Class:	Urban Principal Arterial - Other	Axle Factor Grp:	rg1_3U
Location:	Bet New Brunswick Ave and CO 665 S Washington Ave	Growth Factor Grp:	rg1_3U

	Sun, Apr 21, 2019			Mon, Apr 22, 2019			Tue, Apr 23, 2019			Wed, Apr 24, 2019			Thu, Apr 25, 2019			Fri, Apr 26, 2019			Sat, Apr 27, 2019		
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S
00:00										184	95	89	230	131	99	217	116	101			
01:00										124	72	52	117	63	54	117	55	62			
02:00										85	41	44	95	42	53	101	46	55			
03:00										134	59	75	120	53	67	150	84	66			
04:00										218	111	107	218	119	99	200	94	106			
05:00										481	168	313	519	188	331	442	164	278			
06:00										933	438	495	968	445	523	901	411	490			
07:00										1,363	611	752	1,281	572	709	1,165	500	665			
08:00										1,505	673	832	1,384	600	784	1,457	645	812			
09:00										1,414	608	806	1,296	559	737	1,370	620	750			
10:00										1,399	660	739	1,263	574	689						
11:00										1,363	610	753	1,319	615	704						
12:00										1,621	700	921	1,677	758	919						
13:00							1,576	700	876	1,587	707	880	1,626	746	880						
14:00							1,623	733	890	1,637	757	880	1,693	770	923						
15:00							1,687	667	1,020	1,830	739	1,091	1,784	766	1,018						
16:00							1,902	790	1,112	2,031	806	1,225	2,019	792	1,227						
17:00							2,095	747	1,348	2,054	771	1,283	2,075	783	1,292						
18:00							1,604	674	930	1,653	646	1,007	1,735	727	1,008						
19:00							1,339	638	701	1,296	603	693	1,359	656	703						
20:00							1,026	537	489	1,048	502	546	1,066	514	552						
21:00							758	386	372	794	417	377	726	372	354						
22:00							521	271	250	566	293	273	558	276	282						
23:00							308	165	143	350	197	153	380	187	193						
Total							14,439	6,308	8,131	25,670	11,284	14,386	25,508	11,308	14,200	6,120	2,735	3,385			
AM Peak Vol										1,517	688	848	1,460	615	858						
AM Peak Fct										.89	.93	.841	.828	.78	.8						
AM Peak Hr										8: 15	8: 15	8: 45	8: 30	11: 00	8: 30						
PM Peak Vol										2,110	828	1,337	2,084	830	1,292						
PM Peak Fct										.876	.981	.844	.944	.961	.95						
PM Peak Hr										16: 30	15: 45	17: 15	16: 15	15: 45	17: 00						
Seasonal Fct							1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001			
Daily Fct							.945	.945	.945	.930	.930	.930	.928	.928	.928	.902	.902	.902			
Axle Fct							.487	.487	.487	.487	.487	.487	.487	.487	.487	.487	.487	.487			
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000			

Created 05/31/2019 4:49 PM ROAD AADT 22,988 NDIR AADT 12,835 PDIR AADT 10,153

Appendix C

Crash Diagram and Summary Table



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (1 OF 7)

CR 529 STELTON ROAD
TOWNSHIP OF PISCATAWAY

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-3

MATCH LINE SHEET 2



MATCH LINE SHEET 4

LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (2 OF 7)

CR 529 STELTON ROAD
TOWNSHIP OF PISCATAWAY

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-4



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

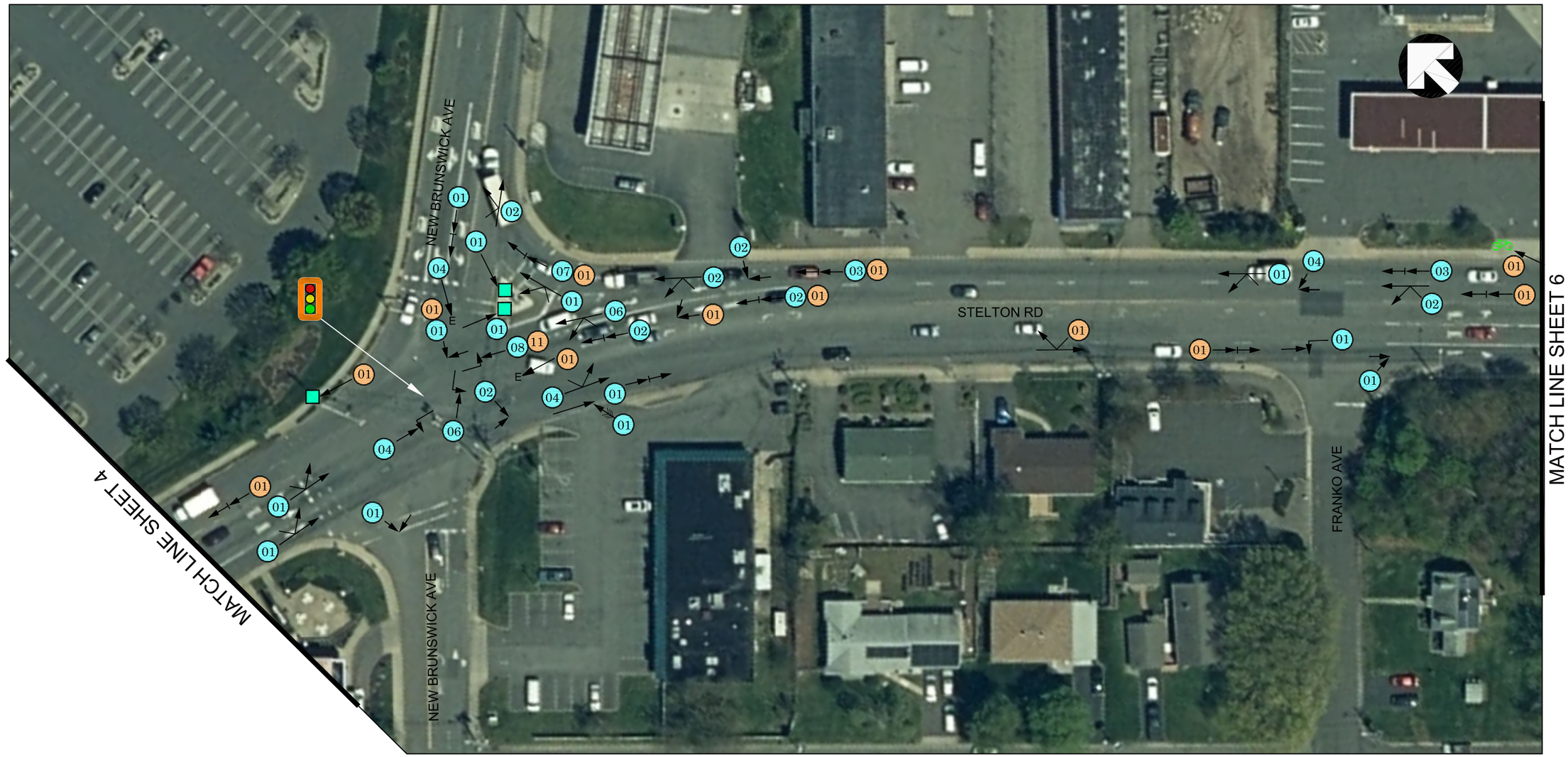
MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (3 OF 7)

CR 529 STELTON ROAD
TOWNSHIP OF PISCATAWAY

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-5



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (4 OF 7)

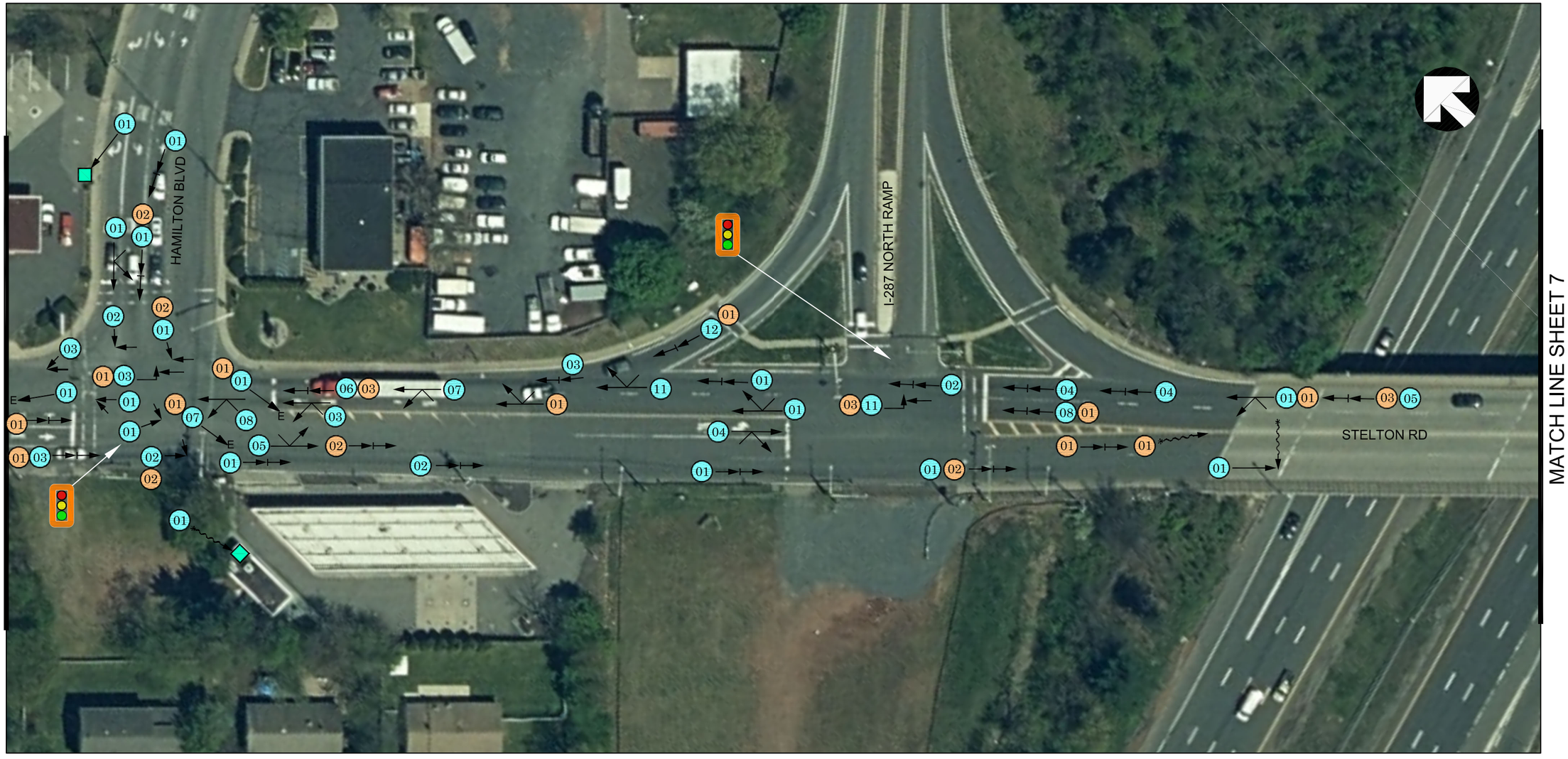
CR 529 STELTON ROAD

TOWNSHIP OF PISCATAWAY AND
BOROUGH OF SOUTH PLAINFIELD

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-6

MATCH LINE SHEET 5



MATCH LINE SHEET 7

LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

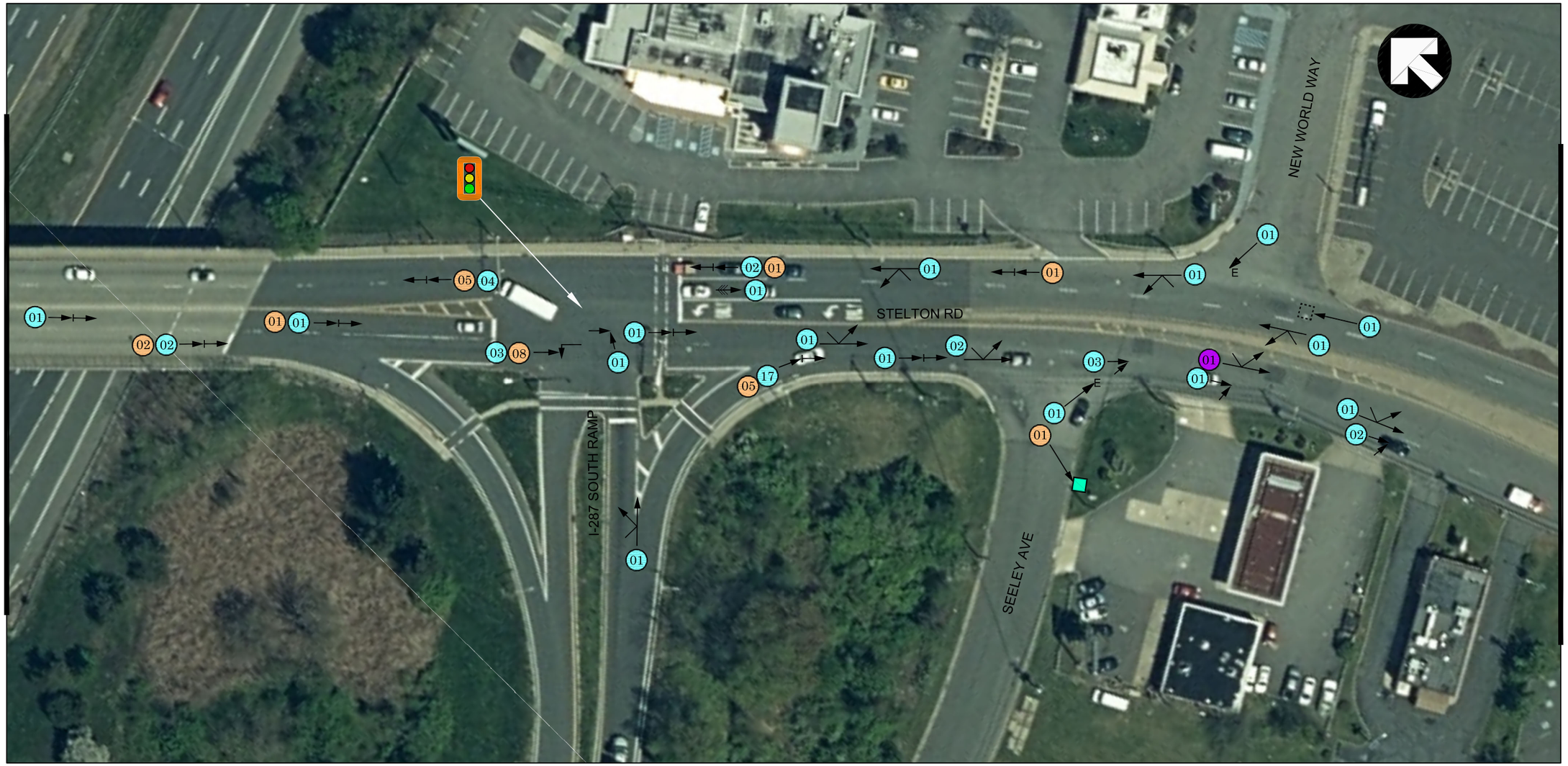
CRASH DIAGRAM (5 OF 7)

CR 529 STELTON ROAD

TOWNSHIP OF PISCATAWAY AND
BOROUGH OF SOUTH PLAINFIELD

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-7



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

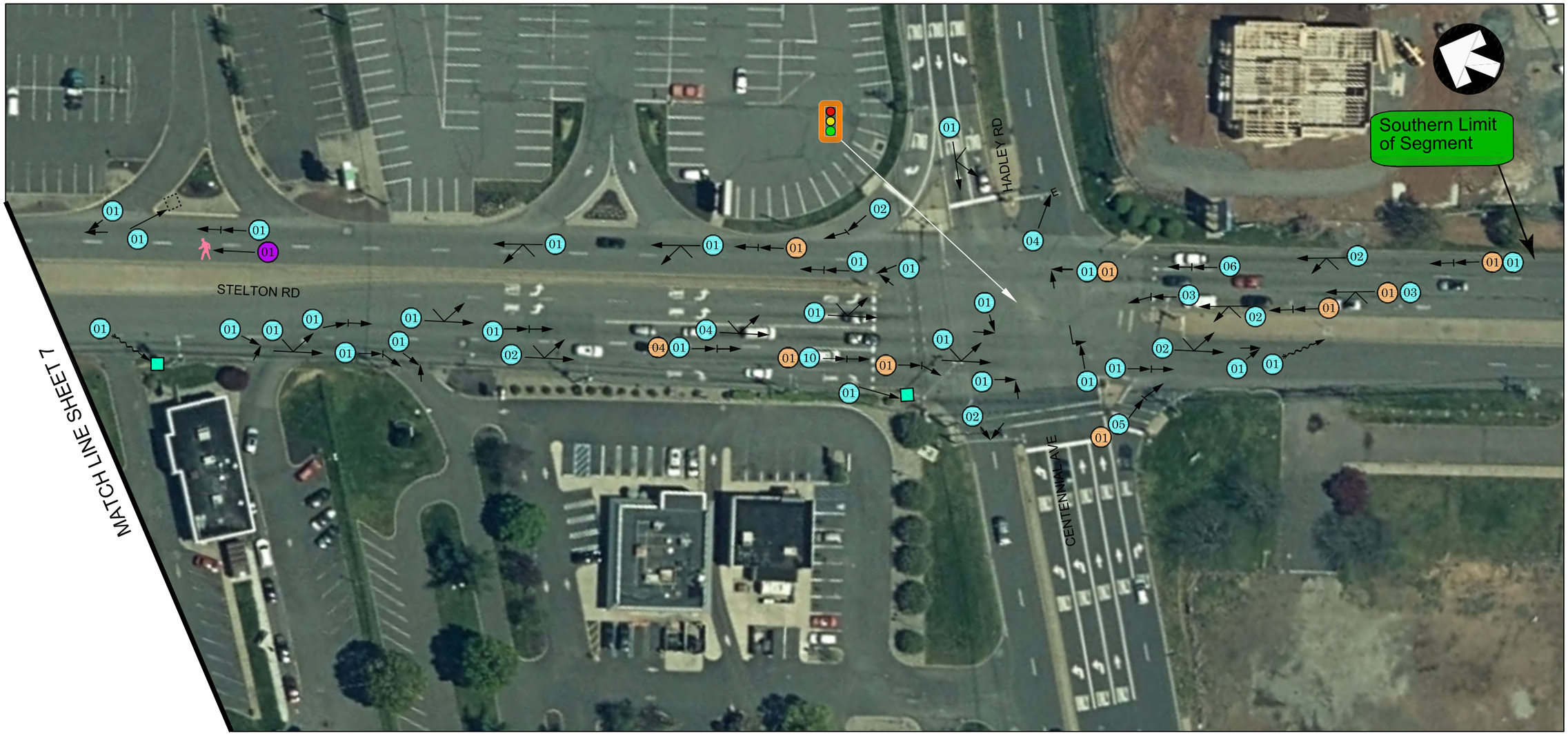
CRASH DIAGRAM (6 OF 7)

CR 529 STELTON ROAD

TOWNSHIP OF PISCATAWAY AND
BOROUGH OF SOUTH PLAINFIELD

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-8



LEGEND	SYMBOLS	TYPES OF COLLISIONS
# NO INJURY	Parked Vehicle	Same Direction Side Swipe
# INJURY	Backing Vehicle	Opposite Direction Side Swipe
# FATAL or SERIOUS INJURY	Cyclist	Left Turn
SIGNALIZED INTERSECTION	Pedestrian	Right Angle
	Fixed Object	Moving Vehicle
	Non-Fixed Object	Out Of Control
	Animal	E Encroachment
		Head On
		Rear End

MIDDLESEX COUNTY • NJ

CRASH DIAGRAM (7 OF 7)

CR 529 STELTON ROAD

TOWNSHIP OF PISCATAWAY AND
BOROUGH OF SOUTH PLAINFIELD

MIDDLESEX COUNTY ROAD SAFETY AUDITS

Stantec | Scale: 1”=60’ | B-9

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21-46694	12/16/21	3:01 PM	Encroachment	No Apparent Injury	Daylight	Dry
21032769	10/29/21	6:21 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
21001719	01/18/21	2:12 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-47508	12/21/21	2:53 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-00690	01/04/23	11:28 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-47513	12/21/21	3:19 PM	Right Angle	No Apparent Injury	Daylight	Dry
22030873	11/15/22	4:33 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
22031778	11/25/22	11:41 PM	Non-fixed Object	No Apparent Injury	Dark - Lighted	Dry
23-02448	01/12/23	5:04 AM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
21037660	12/13/21	5:35 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
21033694	11/06/21	11:26 AM	Left Turn/U Turn	Possible Injury	Daylight	Dry
21-44838	12/06/21	5:24 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22031212	11/19/22	1:35 AM	Same Direction - Sideswipe	Possible Injury	Dark - Lighted	Dry
22-01087	01/08/22	4:57 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22033115	12/10/22	1:05 PM	Right Angle	No Apparent Injury	Daylight	Dry
22028186	10/18/22	12:28 PM	Encroachment	No Apparent Injury	Daylight	Dry
22029132	10/27/22	7:11 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22032464	12/03/22	3:51 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22029231	10/28/22	6:53 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
22029669	11/02/22	4:35 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21034992	11/17/21	10:50 AM	Backing	No Apparent Injury	Daylight	Dry
22028262	10/19/22	7:58 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21035039	11/17/21	6:31 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22-01498	01/11/22	4:59 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
22-13316	03/15/22	9:03 PM	Right Angle	Suspected Minor Injury	Dark - Lighted	Dry
22-22012	04/30/22	6:43 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22-63827	12/07/22	9:35 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
21-36885	10/12/21	7:31 PM	Pedalcyclist	Suspected Minor Injury	Dark - Lighted	Dry
21-15771	05/08/21	8:45 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-13687	04/23/21	7:13 AM	Same Direction - Rear End	No Apparent Injury	Dawn	Dry
21-14308	04/27/21	10:06 AM	Encroachment	Possible Injury	Daylight	Dry
22028311	10/19/22	5:09 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22029452	10/31/22	7:18 AM	Encroachment	No Apparent Injury	Daylight	Dry
22029518	10/31/22	6:59 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22028442	10/20/22	10:52 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
22-06994	02/13/22	1:20 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
21-41009	11/11/21	7:36 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21029603	10/02/21	2:32 AM	Right Angle	Suspected Minor Injury	Dark - Lighted	Dry
21031478	10/19/21	9:10 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21027437	09/13/21	12:27 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21031865	10/22/21	4:12 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22032911	12/08/22	1:28 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
22-10372	03/01/22	12:35 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22026281	09/27/22	2:59 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22026282	09/27/22	3:12 PM	Right Angle	No Apparent Injury	Daylight	Dry
22027653	10/12/22	6:13 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22027796	10/14/22	7:45 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
22013443	05/16/22	3:23 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22019028	07/14/22	1:17 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22022143	08/15/22	3:20 AM	Right Angle	No Apparent Injury	Daylight	Dry
22022085	08/14/22	5:45 PM	Encroachment	No Apparent Injury	Daylight	Dry
22023315	08/28/22	4:19 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22024006	09/04/22	12:37 PM	Left Turn/U Turn	Possible Injury	Daylight	Dry
22024553	09/09/22	9:52 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
22024692	09/11/22	4:32 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22025383	09/18/22	3:25 AM	Fixed Object	Suspected Minor Injury	Dark - Lighted	Dry
21-22630	06/25/21	4:40 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23-08079	02/08/23	3:48 PM	Same Direction - Sideswipe	Possible Injury	Daylight	Dry
21001053	01/12/21	8:22 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21001268	01/14/21	9:11 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21006416	03/05/21	2:02 PM	Fixed Object	No Apparent Injury	Daylight	Dry
21012404	04/30/21	10:43 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21015218	05/26/21	7:12 PM	Right Angle	No Apparent Injury	Daylight	Wet
21018073	06/22/21	9:28 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21019872	07/09/21	3:38 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21022557	08/03/21	2:58 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21023048	08/07/21	7:24 PM	Fixed Object	No Apparent Injury	Daylight	Dry
21-04665	02/05/21	10:27 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21-09782	03/20/21	5:56 PM	Right Angle	No Apparent Injury	Daylight	Dry
21-15090	05/03/21	4:11 PM	Encroachment	No Apparent Injury	Daylight	Dry
21-22308	06/23/21	4:33 PM	Right Angle	No Apparent Injury	Daylight	Dry
21-25986	07/21/21	1:59 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21022960	08/06/21	11:06 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21-14855	05/01/21	3:55 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21003056	01/31/21	3:49 PM	Same Direction - Rear End	Possible Injury	Daylight	Snowy
21003502	02/04/21	10:16 AM	Right Angle	Possible Injury	Daylight	Dry
21005931	03/01/21	7:57 AM	Same Direction - Rear End	Possible Injury	Daylight	Wet
21-05891	02/15/21	3:53 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21-29504	08/18/21	11:28 AM	Same Direction - Sideswipe	Possible Injury	Daylight	Dry
21021626	07/26/21	6:06 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-05667	02/13/21	8:33 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Dry
21-24006	07/05/21	1:51 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22034078	12/21/22	11:10 AM	Right Angle	No Apparent Injury	Daylight	Dry
21000512	01/06/21	6:42 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21001280	01/14/21	12:05 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21006068	03/02/21	11:14 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21007361	03/13/21	8:32 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
21009467	04/02/21	9:57 AM	Right Angle	No Apparent Injury	Daylight	Dry
21010977	04/16/21	12:46 PM	Right Angle	No Apparent Injury	Daylight	Dry
21014868	05/23/21	8:26 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21016384	06/07/21	8:42 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21018494	06/26/21	7:03 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
B130-2021-00828A	04/25/21	1:52 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22034620	12/27/22	2:18 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21003661	02/05/21	7:06 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21-03090	01/25/21	12:13 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-00741	01/06/21	2:19 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-19868	06/06/21	12:23 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21-22898	06/27/21	10:03 AM	Right Angle	No Apparent Injury	Daylight	Dry
21000401	01/05/21	5:33 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21-04587	02/05/21	8:40 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21-36942	10/13/21	8:56 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21031775	10/21/21	9:17 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21-35473	10/01/21	2:44 PM	Right Angle	No Apparent Injury	Daylight	Dry
22-18269	04/11/22	8:55 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21023962	08/16/21	10:50 AM	Right Angle	No Apparent Injury	Daylight	Dry
21024276	08/19/21	12:39 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21028239	09/20/21	8:17 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21030919	10/14/21	8:38 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21030960	10/14/21	5:13 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21031053	10/15/21	2:01 PM	Right Angle	No Apparent Injury	Daylight	Dry
21-33335	09/15/21	2:42 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-34476	09/23/21	10:15 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Wet
21-37997	10/20/21	8:27 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21-38994	10/28/21	10:45 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23025100	09/24/23	4:49 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Wet
21029069	09/27/21	5:21 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21-32525	09/09/21	4:46 PM	Right Angle	Possible Injury	Daylight	Dry
21-34571	09/24/21	3:34 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21-36228	10/07/21	2:19 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21024277	08/19/21	2:08 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21024549	08/21/21	11:17 PM	Fixed Object	Suspected Minor Injury	Dark - Lighted	Wet
21025520	08/30/21	7:36 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21027914	09/17/21	3:45 PM	Backing	No Apparent Injury	Daylight	Dry
21-31592	09/02/21	9:10 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
21-36229	10/07/21	2:28 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-37991	10/20/21	7:40 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
21028968	09/26/21	7:57 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Dry
22012472	05/06/22	12:23 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22000344	01/05/22	7:05 AM	Fixed Object	Possible Injury	Dawn	Icy
21021783	07/27/21	4:41 PM	Same Direction - Sideswipe	Possible Injury	Daylight	Dry
21023093	08/08/21	7:24 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
21-29778	08/20/21	2:44 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21027753	09/16/21	7:00 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21031751	10/21/21	4:50 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
21031540	10/19/21	7:12 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21029553	10/01/21	4:39 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-46605	12/16/21	2:57 AM	Right Angle	Possible Injury	Dark - Lighted	Dry
21-07654	03/03/21	1:11 PM	Encroachment	No Apparent Injury	Daylight	Dry
21-47102	12/19/21	12:31 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-47319	12/20/21	3:20 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-48581	12/29/21	5:50 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21-48297	12/27/21	7:17 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Wet
21-45174	12/08/21	7:19 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
21-48139	12/26/21	4:16 PM	Right Angle	No Apparent Injury	Daylight	Dry
21037487	12/11/21	7:16 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Wet
21037273	12/09/21	5:29 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
21032968	10/31/21	2:22 PM	Encroachment	No Apparent Injury	Daylight	Dry
21036850	12/05/21	11:24 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21034409	11/12/21	11:08 AM	Same Direction - Rear End	Possible Injury	Daylight	Wet
21033703	11/06/21	1:26 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21038748	12/24/21	10:49 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-47321	12/20/21	3:27 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21038842	12/25/21	1:33 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
21037958	12/16/21	1:19 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21033598	11/05/21	4:44 PM	Encroachment	No Apparent Injury	Daylight	Dry
21034930	11/16/21	10:00 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
21033967	11/08/21	10:04 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21038769	12/24/21	3:54 PM	Encroachment	Possible Injury	Dusk	Dry
21035661	11/23/21	3:45 PM	Right Angle	No Apparent Injury	Daylight	Dry
21035701	11/23/21	9:37 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21035758	11/24/21	1:12 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21036102	11/28/21	1:41 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
21036455	12/01/21	9:54 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21035257	11/19/21	7:15 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
21035206	11/19/21	12:03 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21035794	11/24/21	9:18 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21036576	12/02/21	3:20 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
21039202	12/29/21	1:42 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
21039290	12/30/21	1:02 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21039021	12/27/21	5:46 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21035138	11/18/21	5:31 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21-01192	01/10/21	7:06 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
21-04747	02/06/21	12:25 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-11605	04/05/21	6:21 AM	Same Direction - Sideswipe	No Apparent Injury	Dawn	Dry
21-14806	05/01/21	2:49 AM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21-17219	05/19/21	12:36 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-29963	08/22/21	12:30 AM	Non-fixed Object	No Apparent Injury	Dark - Lighted	Wet
21-05203	02/10/21	11:51 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21-11646	04/05/21	2:20 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21-29368	08/17/21	4:33 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21-05301	02/11/21	2:40 AM	Non-fixed Object	No Apparent Injury	Dark - Lighted	Snowy
21-24544	07/09/21	9:11 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
21-33065	09/13/21	7:58 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21-36231	10/07/21	2:58 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21029539	10/01/21	2:22 PM	Other/Unknown	Suspected Minor Injury	Daylight	Dry
21026368	09/04/21	6:02 PM	Right Angle	Possible Injury	Daylight	Dry
21-37410	10/16/21	2:47 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21028099	09/19/21	10:48 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-38878	10/27/21	4:01 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21029444	09/30/21	5:32 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
21027909	09/17/21	3:31 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-33609	09/17/21	2:11 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-33979	09/20/21	4:35 PM	Right Angle	No Apparent Injury	Daylight	Dry
21-38499	10/24/21	6:47 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22000368	01/05/22	7:05 AM	Fixed Object	No Apparent Injury	Dawn	Icy
22010324	04/14/22	1:50 PM	Right Angle	No Apparent Injury	Daylight	Dry
22006379	03/04/22	10:43 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22003417	02/04/22	11:30 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
22012328	05/04/22	8:30 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22025797	09/22/22	2:00 PM	Right Angle	No Apparent Injury	Daylight	Dry
22008399	03/25/22	4:37 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22034263	12/23/22	11:55 AM	Same Direction - Rear End	Possible Injury	Daylight	Wet
22007050	03/11/22	12:13 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22009325	04/04/22	3:42 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22008586	03/27/22	6:30 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22003206	02/02/22	8:59 AM	Right Angle	No Apparent Injury	Daylight	Dry
22007190	03/12/22	8:47 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
22008578	03/27/22	4:56 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
22000327	01/05/22	5:52 AM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Icy
22011473	04/26/22	9:48 AM	Encroachment	No Apparent Injury	Daylight	Dry
22004083	02/10/22	10:19 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22005328	02/22/22	5:16 PM	Right Angle	No Apparent Injury	Daylight	Wet
22011197	04/23/22	12:07 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22014605	05/28/22	5:37 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22014646	05/29/22	11:08 AM	Right Angle	No Apparent Injury	Daylight	Dry
22007915	03/20/22	10:20 AM	Right Angle	No Apparent Injury	Daylight	Dry
22008863	03/30/22	12:45 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22017816	07/01/22	6:33 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22009825	04/09/22	1:38 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22010791	04/19/22	11:07 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22009839	04/09/22	4:47 PM	Right Angle	No Apparent Injury	Daylight	Dry
22014969	06/01/22	8:44 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Dry
22017020	06/23/22	2:13 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
22019827	07/22/22	11:41 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22022609	08/20/22	1:16 PM	Right Angle	No Apparent Injury	Daylight	Dry
22-04062	01/28/22	5:58 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Wet
22010934	04/20/22	8:46 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
22000328	01/05/22	6:07 AM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Icy
22004406	02/14/22	5:49 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22005201	02/21/22	1:51 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22008841	03/30/22	7:38 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22008981	03/31/22	5:47 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22009464	04/05/22	6:59 PM	Same Direction - Rear End	No Apparent Injury	Dusk	Dry
22014314	05/25/22	7:17 PM	Right Angle	No Apparent Injury	Daylight	Dry
22015739	06/09/22	5:22 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22023403	08/29/22	1:03 PM	Encroachment	No Apparent Injury	Daylight	Dry
22025666	09/21/22	7:42 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-52014	10/06/22	1:58 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22034541	12/26/22	12:39 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
22000335	01/05/22	6:48 AM	Other/Unknown	No Apparent Injury	Dark - Lighted	Icy
22-06060	02/09/22	11:10 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-04418	01/31/22	2:32 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-32367	06/21/22	12:45 PM	Encroachment	No Apparent Injury	Daylight	Dry
22008957	03/31/22	2:57 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-28569	06/02/22	12:48 PM	Backing	No Apparent Injury	Daylight	Dry
22018433	07/08/22	10:42 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22020572	07/29/22	2:49 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22010764	04/19/22	6:16 AM	Encroachment	No Apparent Injury	Daylight	Wet
22011147	04/22/22	10:36 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22033261	12/12/22	10:07 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-18253	04/11/22	7:25 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-19767	04/18/22	12:29 PM	Right Angle	No Apparent Injury	Daylight	Dry
22-30330	06/11/22	12:42 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-29311	06/06/22	3:50 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-23925	05/10/22	4:23 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-29469	06/07/22	9:01 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22-28930	06/04/22	2:38 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22-32383	06/21/22	2:18 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22-32301	06/21/22	6:47 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23013170	05/25/23	10:24 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
23011014	05/02/23	9:30 AM	Fixed Object	No Apparent Injury	Daylight	Dry
22-37168	07/17/22	4:50 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-45123	08/30/22	8:25 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22-45322	08/31/22	9:55 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22-50713	09/29/22	5:10 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-51083	10/01/22	5:57 AM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
22-56269	10/27/22	5:09 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-15714	03/17/23	11:36 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-13841	03/08/23	4:40 PM	Encroachment	No Apparent Injury	Daylight	Dry
23005429	03/03/23	6:31 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Wet
23009473	04/18/23	3:45 PM	Encroachment	No Apparent Injury	Daylight	Dry
23000718	01/10/23	1:04 PM	Backing	No Apparent Injury	Daylight	Dry
23006915	03/21/23	9:59 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-33681	06/28/22	4:00 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22-33999	06/30/22	10:32 AM	Right Angle	No Apparent Injury	Daylight	Dry
22-64302	12/09/22	11:42 AM	Encroachment	No Apparent Injury	Daylight	Dry
22-64310	12/09/22	12:43 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-43069	08/19/22	9:55 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-47446	09/12/22	5:49 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-59257	11/12/22	6:56 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22-61845	11/27/22	1:49 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
22-03405	01/24/22	3:36 PM	Right Angle	No Apparent Injury	Daylight	Dry
22-19046	04/14/22	5:14 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
22-28766	06/03/22	3:45 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-38217	07/23/22	2:11 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22-38251	07/23/22	5:57 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22-40239	08/03/22	8:26 PM	Right Angle	No Apparent Injury	Dusk	Dry
22-43775	08/23/22	3:27 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22-56822	10/30/22	11:12 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
22-56966	10/31/22	9:36 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-58511	11/08/22	3:08 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
22-65194	12/14/22	9:06 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220670619	08/17/22	5:18 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23005354	03/02/23	10:18 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
23-13485	03/07/23	6:26 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
23005857	03/08/23	1:18 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23009161	04/14/23	9:31 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23-03362	01/16/23	4:20 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23-03339	01/16/23	2:03 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23009042	04/13/23	9:15 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23007878	03/31/23	7:56 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23005873	03/08/23	4:21 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23015042	06/13/23	11:53 AM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23006860	03/20/23	2:54 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23002706	02/02/23	1:17 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23021646	08/18/23	2:09 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23001625	01/21/23	4:43 PM	Same Direction - Sideswipe	No Apparent Injury	Dusk	Dry
23008732	04/10/23	6:50 PM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
23-08087	02/08/23	4:55 PM	Same Direction - Sideswipe	Possible Injury	Daylight	Dry
23019348	07/24/23	10:30 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
23001643	01/21/23	8:33 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
23020294	08/03/23	9:22 AM	Right Angle	No Apparent Injury	Daylight	Dry
23-00297	01/02/23	5:07 PM	Right Angle	Possible Injury	Dark - Lighted	Dry
23002789	02/03/23	11:18 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23002475	01/30/23	10:23 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23017128	07/03/23	5:00 PM	Left Turn/U Turn	Possible Injury	Daylight	Dry
23-04075	01/19/23	5:08 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Wet
23003791	02/14/23	12:54 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23012265	05/16/23	10:16 PM	Same Direction - Sideswipe	Suspected Serious Injury	Dark - Lighted	Dry
23014701	06/09/23	9:51 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23016304	06/25/23	5:47 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-07622	02/06/23	6:07 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23021356	08/15/23	1:11 PM	Right Angle	No Apparent Injury	Daylight	Dry
23-03975	01/19/23	6:49 AM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Wet
23022271	08/25/23	2:51 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23016437	06/26/23	10:42 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Wet
23017012	07/02/23	2:06 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23000985	01/13/23	6:04 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23015544	06/18/23	11:24 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23017523	07/06/23	6:16 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23007948	04/01/23	4:14 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23003609	02/12/23	4:01 PM	Encroachment	No Apparent Injury	Daylight	Dry
23007291	03/25/23	4:54 PM	Fixed Object	No Apparent Injury	Daylight	Wet
23007177	03/24/23	11:19 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23005018	02/27/23	11:34 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23001301	01/17/23	6:41 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
23006279	03/13/23	2:43 PM	Same Direction - Rear End	Possible Injury	Daylight	Wet
23018065	07/11/23	4:05 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23017828	07/09/23	12:55 PM	Encroachment	Possible Injury	Daylight	Wet
23007032	03/22/23	2:21 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
23010452	04/28/23	12:13 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23005345	03/02/23	9:00 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
23008555	04/08/23	9:57 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23016717	06/29/23	5:57 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23004010	02/16/23	11:55 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23012378	05/17/23	9:54 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23014096	06/03/23	2:50 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23025120	09/24/23	10:18 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Wet
23025483	09/28/23	4:26 PM	Right Angle	No Apparent Injury	Daylight	Dry
23025291	09/26/23	8:25 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23021021	08/11/23	1:48 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23025625	09/30/23	4:40 AM	Fixed Object	No Apparent Injury	Dark - Lighted	Wet
23-12770	03/03/23	12:20 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23021005	08/11/23	9:55 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23022444	08/27/23	12:56 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23022625	08/29/23	3:19 PM	Encroachment	No Apparent Injury	Daylight	Dry
23022984	09/02/23	11:22 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23023185	09/04/23	2:43 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23023995	09/12/23	7:34 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
23024369	09/16/23	3:31 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23024377	09/16/23	5:13 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
23-59341	10/17/23	2:01 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-28685	05/17/23	12:22 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Mud, Dirt, Gravel
23-24962	05/01/23	7:05 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-25599	05/04/23	7:08 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23027961	10/25/23	6:18 PM	Encroachment	No Apparent Injury	Dark - Lighted	Dry
23-41367	07/17/23	2:45 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23027765	10/23/23	5:09 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Dry
23028053	10/26/23	5:13 PM	Right Angle	No Apparent Injury	Daylight	Dry
23028425	10/30/23	3:27 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23026406	10/08/23	5:56 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23001818	01/23/23	8:21 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23030723	11/25/23	2:21 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23030745	11/25/23	7:22 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
23031241	12/01/23	5:21 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
23029837	11/15/23	9:29 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23032767	12/18/23	6:10 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
23030863	11/27/23	7:45 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23029986	11/16/23	6:14 PM	Same Direction - Sideswipe	Possible Injury	Dark - Lighted	Dry
23029933	11/16/23	8:38 AM	Same Direction - Rear End	Suspected Minor Injury	Daylight	Dry
23032466	12/15/23	5:40 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
23032249	12/13/23	10:40 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-33500	06/08/23	5:15 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23029833	11/15/23	8:44 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23030806	11/26/23	1:36 PM	Left Turn/U Turn	No Apparent Injury	Daylight	Wet
23031308	12/02/23	2:43 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23032498	12/15/23	11:01 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
23031733	12/07/23	5:45 PM	Left Turn/U Turn	Suspected Minor Injury	Dark - Lighted	Dry
23031989	12/10/23	5:33 PM	Same Direction - Rear End	Suspected Minor Injury	Dark - Lighted	Wet
23030951	11/28/23	8:04 AM	Encroachment	No Apparent Injury	Daylight	Dry
23030256	11/19/23	5:44 PM	Left Turn/U Turn	Possible Injury	Dark - Lighted	Dry
23030988	11/28/23	5:50 PM	Left Turn/U Turn	No Apparent Injury	Dark - Lighted	Dry
23029636	11/13/23	8:00 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23029948	11/16/23	10:58 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23033477	12/27/23	11:06 AM	Fixed Object	No Apparent Injury	Daylight	Wet
23-13839	03/08/23	4:32 PM	Left Turn/U Turn	Suspected Minor Injury	Daylight	Dry
B130-2021-00697A	04/07/21	11:50 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
B130-2021-00558A	03/13/21	8:58 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-05880	02/15/21	10:38 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-14616	04/29/21	6:14 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21-37994	10/20/21	8:05 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
21-41967	11/18/21	12:04 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
21-43935	12/01/21	9:04 AM	Same Direction - Rear End	Possible Injury	Daylight	Dry
21033441	11/04/21	4:31 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
21037778	12/14/21	6:07 PM	Right Angle	No Apparent Injury	Dark - Lighted	Dry
21035781	11/24/21	5:57 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22020141	07/25/22	2:10 AM	Overturned	No Apparent Injury	Dark - Not Lighted	Dry
22021198	08/05/22	7:41 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22005025	02/19/22	6:20 PM	Same Direction - Sideswipe	No Apparent Injury	Dark - Lighted	Dry
22018453	07/08/22	3:40 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22020814	08/01/22	11:03 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
22022060	08/14/22	12:19 PM	Fixed Object	Suspected Minor Injury	Daylight	Dry
22026854	10/04/22	9:44 AM	Right Angle	Suspected Minor Injury	Daylight	Wet
22-64834	12/12/22	11:15 AM	Encroachment	No Apparent Injury	Daylight	Dry
220800696	10/06/22	9:45 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220808713	10/09/22	12:50 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220840349	10/20/22	7:20 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
22034280	12/23/22	2:16 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Wet
22034902	12/30/22	7:56 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry

Case #	Crash Date	Time of Day	Crash Type	Crash Severity	Light Condition	Road Surface Condition
21R062778	06/25/21	5:38 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
210578371	11/25/21	12:56 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
210593760	11/30/21	6:43 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
210597581	12/01/21	8:44 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
210614965	12/07/21	7:23 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
210191221	08/01/21	6:04 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
210650844	12/17/21	2:53 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
210623998	12/09/21	4:19 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
210315621	09/07/21	8:49 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
21R078303	06/29/21	7:22 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23004620	02/23/23	9:12 AM	Encroachment	No Apparent Injury	Daylight	Wet
23005564	03/05/23	10:22 AM	Right Angle	No Apparent Injury	Daylight	Dry
23013854	06/01/23	3:12 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23018598	07/17/23	8:40 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23020688	08/07/23	1:18 PM	Right Angle	No Apparent Injury	Daylight	Dry
23016692	06/29/23	1:55 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23002414	01/30/23	8:45 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
23023091	09/03/23	12:09 PM	Encroachment	Possible Injury	Daylight	Dry
23013050	05/24/23	5:44 PM	Same Direction - Rear End	Possible Injury	Daylight	Dry
23024538	09/18/23	2:52 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
23026782	10/12/23	9:21 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Dry
230236271	03/21/23	7:06 AM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23029430	11/10/23	2:33 PM	Same Direction - Sideswipe	No Apparent Injury	Daylight	Dry
23-34537	06/13/23	2:06 PM	Fixed Object	No Apparent Injury	Daylight	Dry
230083812	01/27/23	7:38 PM	Same Direction - Rear End	No Apparent Injury	Dark - Not Lighted	Dry
220307107	04/04/22	9:30 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220436764	05/22/22	7:37 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
220464413	06/01/22	8:54 PM	Same Direction - Rear End	Possible Injury	Dark - Not Lighted	Dry
220510818	06/19/22	4:42 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220982990	12/15/22	1:12 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
220014441	01/05/22	4:33 PM	Same Direction - Rear End	No Apparent Injury	Dark - Lighted	Wet
220035377	01/11/22	6:05 PM	Same Direction - Rear End	Possible Injury	Dark - Lighted	Dry
220113158	02/02/22	1:41 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220127899	02/07/22	7:59 AM	Same Direction - Rear End	No Apparent Injury	Daylight	Wet
220252788	03/13/22	4:17 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry
220608287	07/26/22	4:47 PM	Same Direction - Rear End	No Apparent Injury	Daylight	Dry

Appendix D

Local Officials, Pre-Audit Meeting Presentation

STELTON ROAD

ROAD SAFETY AUDIT

Local Officials Meeting

October 7 & 8, 2024

Introductions: County & NJTPA

- **Andrew Lappitt**
  Project Manager
- **Linda Weber**
  Planning Director
- **George Fallat**
  County Engineering
- **Andy Kaplan – NJTPA**

Middlesex County Facts

- **25 municipalities**
- **~ 830k population**
- **~ 330 miles of county roads**
- **~ 200 traffic signals**

Introductions: Consultant Team

Middlesex County + NJTPA

Adam Catherine
Principal-In-Charge

Matthew Maher
Consultant Team Project Manager

Kati DiRaimondo
Deputy Project Manager

Needs Assessment

Kush Bhagat
Task Leader

Public Involvement

Courtenay Mercer
Task Leader

Data Analysis

Timothy Tresohlavy
Task Leader

Road Safety Audits

Anthony Durante
Task Leader

Agenda

- **Purposes of Meeting**
- **Project Background**
- **What is a Road Safety Audit (RSA)?**
- **Role of Local Officials**
- **CR 529 (Stelton) Information**
- **Open Discussion about CR 529**
- **Designate RSA Team Members**
- **Logistics Plan**
- **How to Stay Involved**

Purposes of Meeting Today

1. **Gather information on corridor to undergo RSA**
2. **Share logistics plan for RSA effort**

FEDERAL HIGHWAY ADMINISTRATION'S (FHWA'S)
8-STEP ROAD SAFETY AUDIT PROCESS

1. Select Corridors (DONE)
2. Assemble RSA Team (TODAY)
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report

Project Background

- **Years of safety successes within the County thanks to road safety audits (RSAs)**
  - **Road diet/redesign of Livingston Avenue**
  - **Signalization/ADA improvements by NJ TRANSIT's New Brunswick Station**
- **Advance another five (5) RSAs on different County roadways**
- **Corridor goal:**
  Successfully conduct an RSA in your community
- **Study goal:**
  Reduce fatal and serious injury crashes in the County

LIVINGSTON AVENUE
BEFORE & AFTER





County Road Crash Stats

*Over the past 10 Years (2012-2021), on **County jurisdiction roads** per year...*

*~**5,000** crashes*

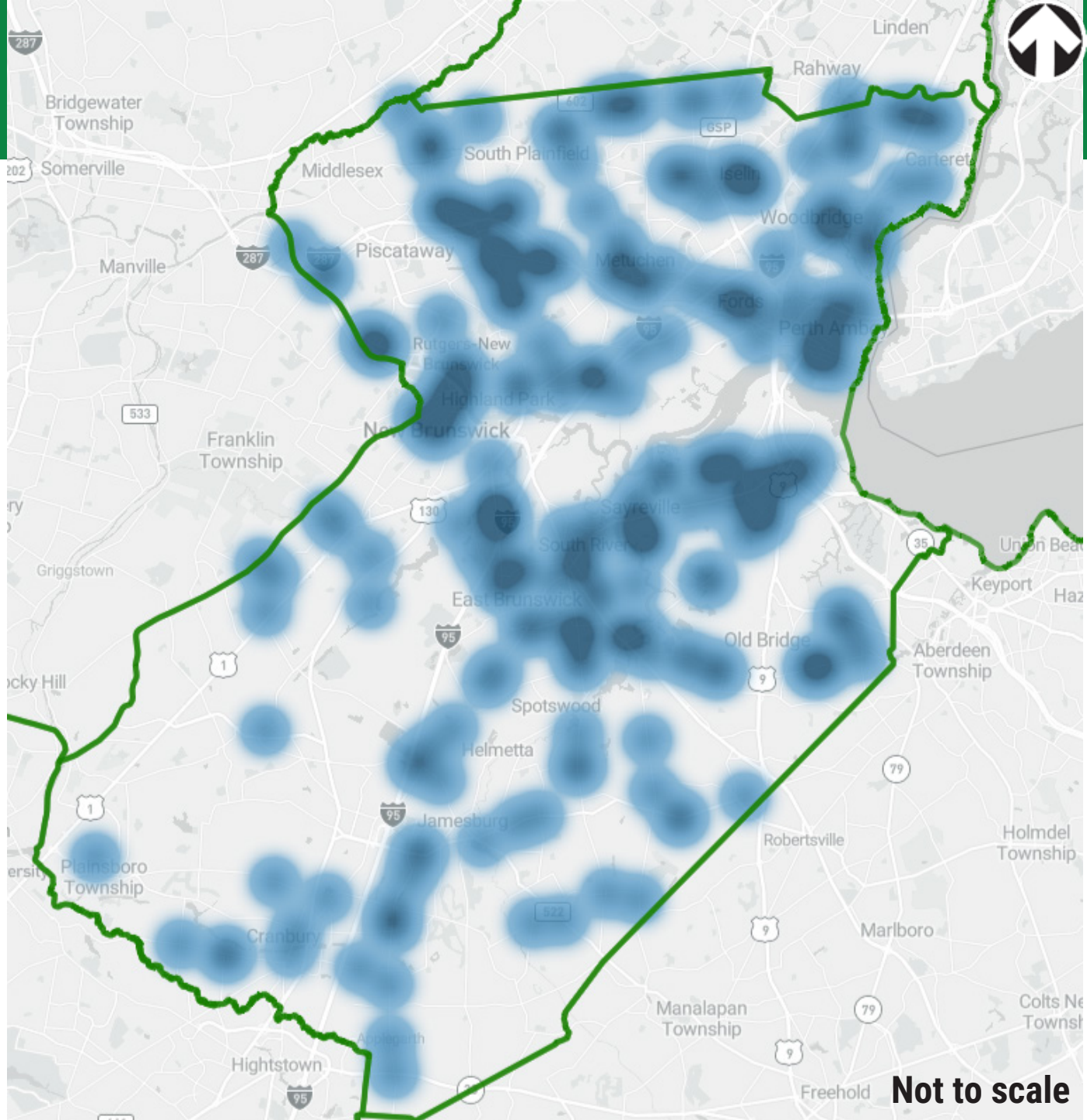
*~**27** serious injury crashes*

*~**10** fatal crashes*

*~**87** ped/bike crashes*

County road crash density map shown on the right half of screen (darker blue=more crashes)

Middlesex County Office of Planning, Stelton Road RSA



What is a Road Safety Audit (RSA)?

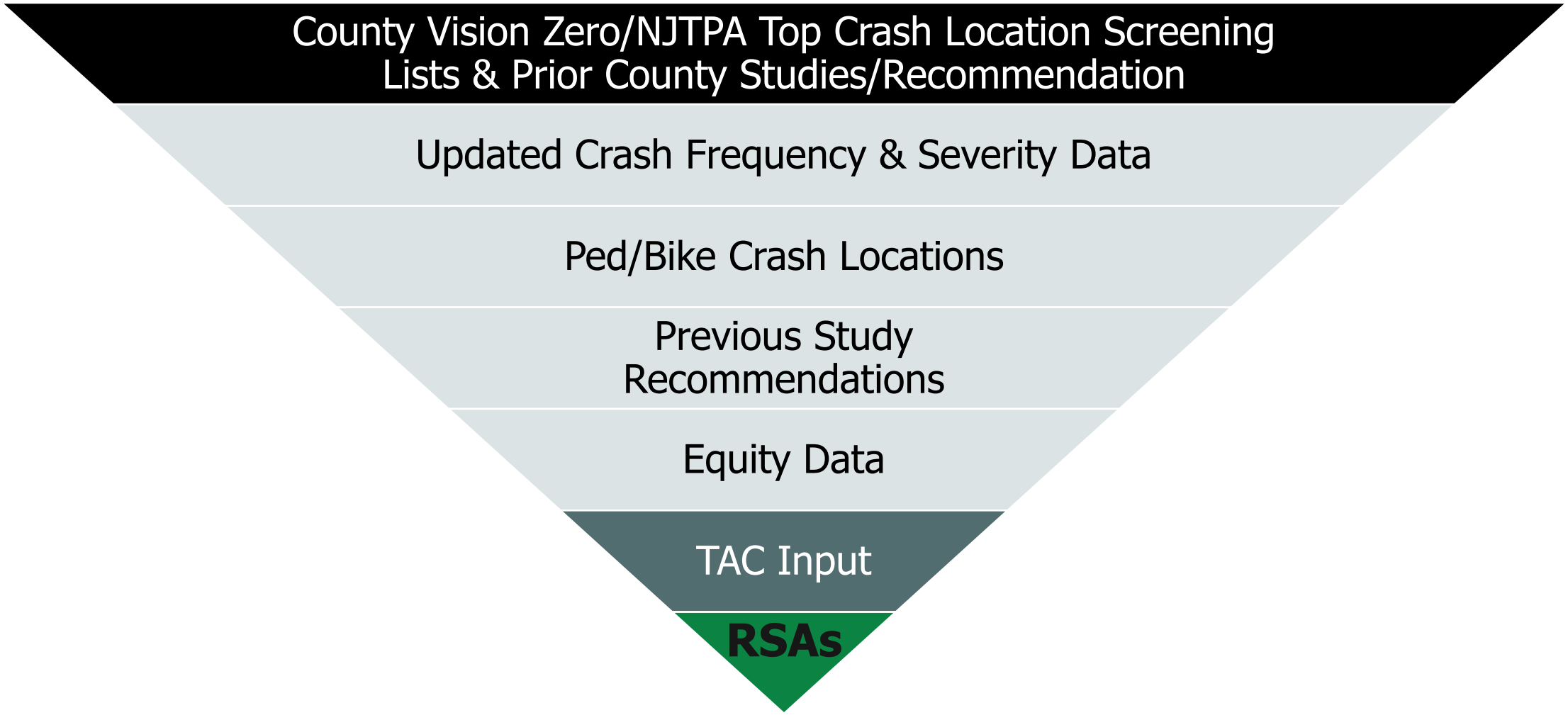
- **Safety performance evaluation by a multidisciplinary team including:**
  - **Law enforcement/EMS responders**
  - **Municipal staff and stakeholders (BOE, DPW, council, mayor, etc.)**
  - **County advocates (Keep Middlesex Moving, County Health/Safety)**
  - **Regional advisors (FHWA, NJDOT, NJTPA, NJ TRANSIT, AARP, New Jersey Bike Walk Coalition, Tri-State Trans. Campaign, etc.)**
  - **County and consultant engineers, planners, and administration**
- **Identifies crash trends/causes**
- **Proposes targeted safety improvements (policy, infrastructure, behavior, education)**

Role of Local Officials

- **Participate in 2 Local Officials Meetings:**
  - **One (1) prior to the RSA site visit to gather information important to successfully conducting the RSA, as well as discussing RSA logistics and potential participants - TODAY**
  - **One (1) after the RSA site visit to review findings and draft recommendations and discuss logistics for a public meeting – JANUARY 2025**
- **Participate in RSA**
- **Assist in planning Public Meeting**
- **Other roles:**
  - **Technical expertise**
  - **Provision of relevant studies/docs**
  - **Help with publicizing public engagement activities**

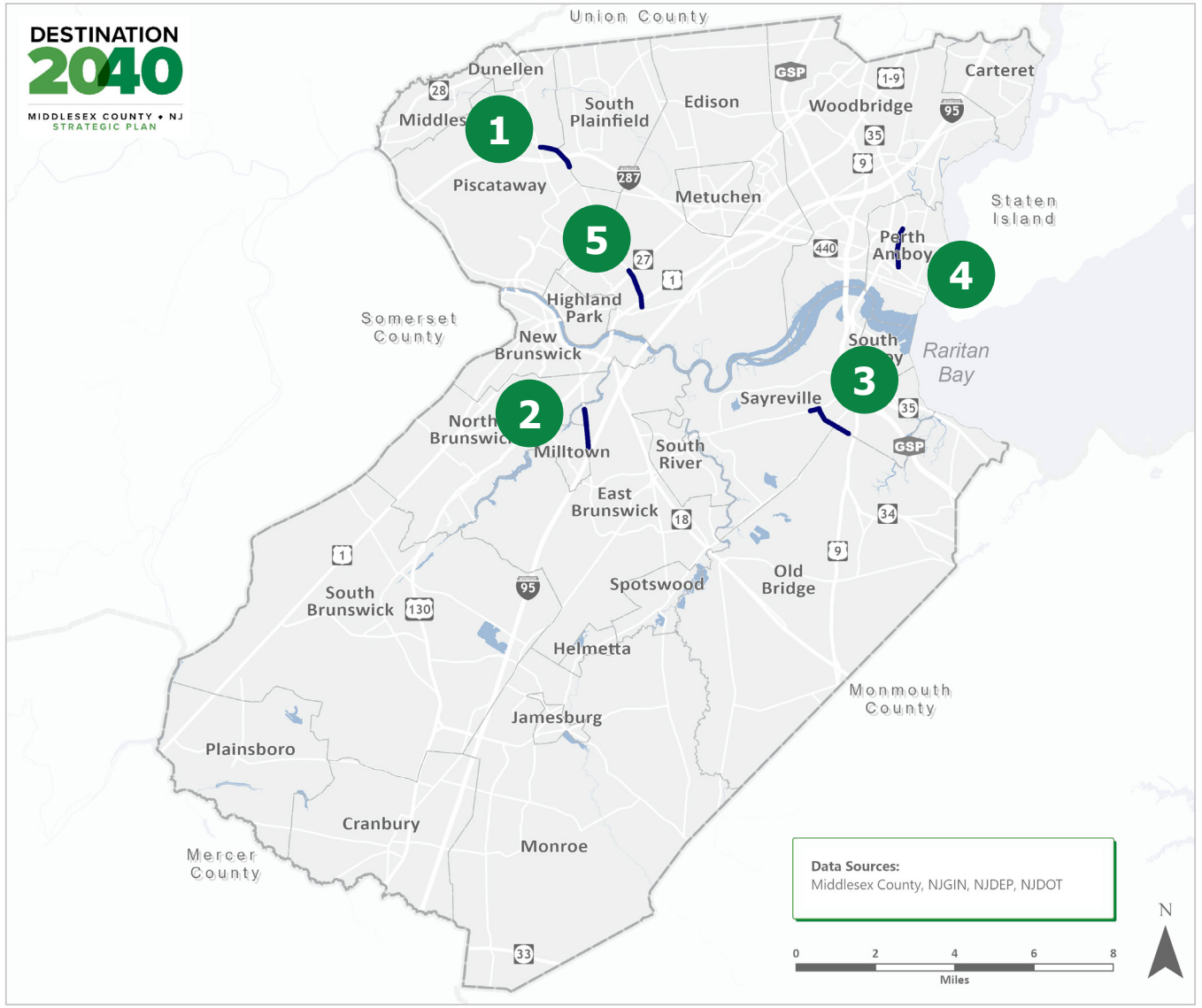


Corridor Selection



County Road Segments Selected for RSA Review

1. **CR 529 - Stelton Rd in Piscataway/South Plainfield**
2. **CR 617 - Ryders Ln in Milltown/East Brunswick**
3. **CR 673 - Ernston Rd in Sayreville/Old Bridge**
4. **CR 653 - Amboy Ave in Perth Amboy**
5. **CR 529 - Plainfield Ave in Edison**



Map 1: Road Safety Audit (RSA) Corridors

MIDDLESEX COUNTY • NJ

Middlesex County Road Safety Audits, 2024



Legend

- RSA Corridors
- Middlesex County
- Municipalities of Middlesex County
- Water Bodies

Prepared: *September 20, 2024*
By: *Middlesex County Office of Planning*

529 COUNTY Stelton Road

Piscataway Twp/South Plainfield Borough

Safety Improvements North of Segment (LSP)

High Crash Frequency and Severity corridor

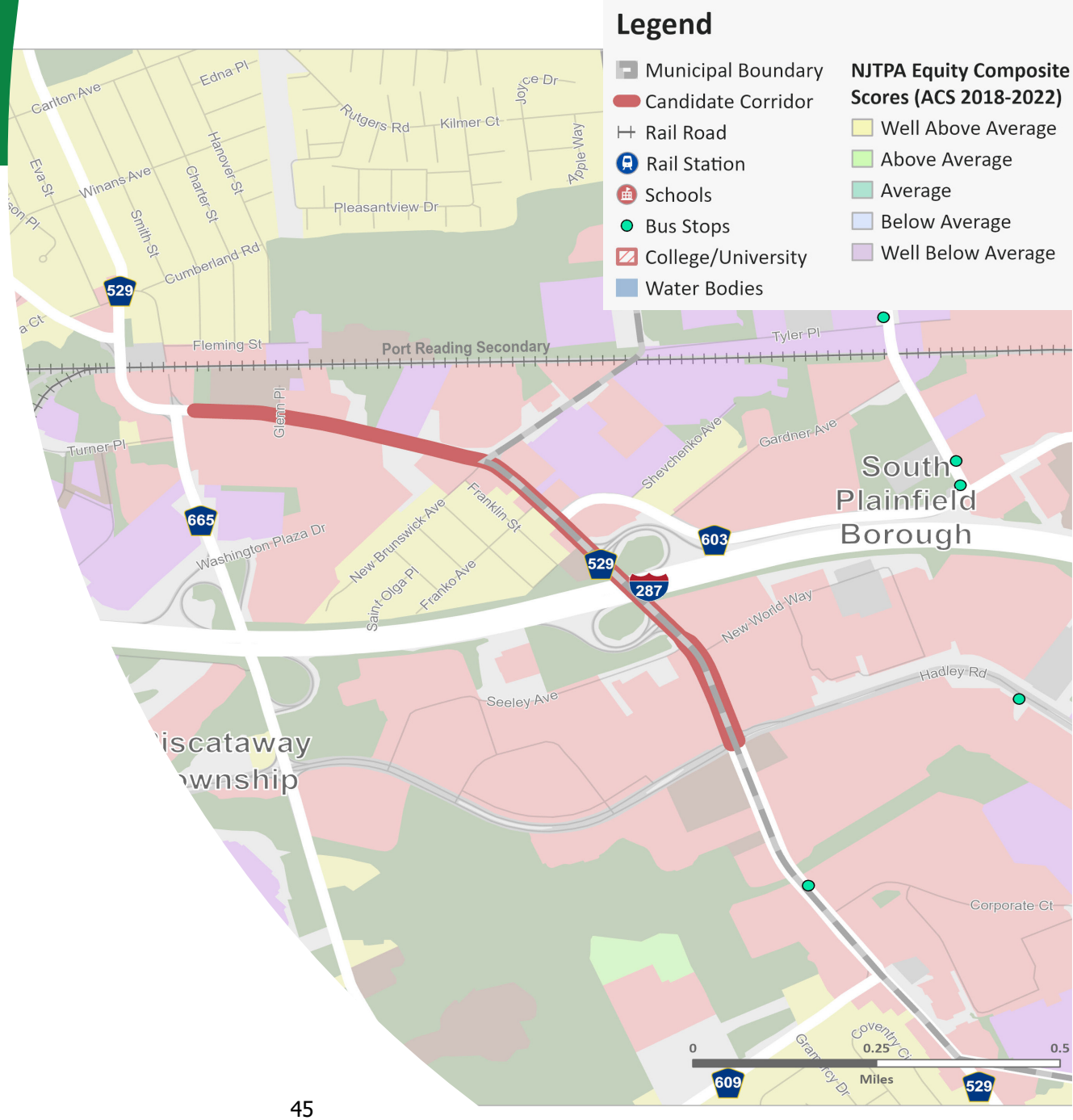
Corridor previously studied

Crash Trends Observed (2017 through 2021)

- 738 Crashes in Total (0 Fatal/5 SI)
- 4 Ped/Bike Crashes
- 18% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Same Direction - Rear End (42%)
- Same Direction - Sideswipe (30%)
- Right Angle (14%)



529 COUNTY Stelton Road

Piscataway Twp/South Plainfield Borough

Safety Improvements North of Segment (LSP)

High Crash Frequency and Severity corridor

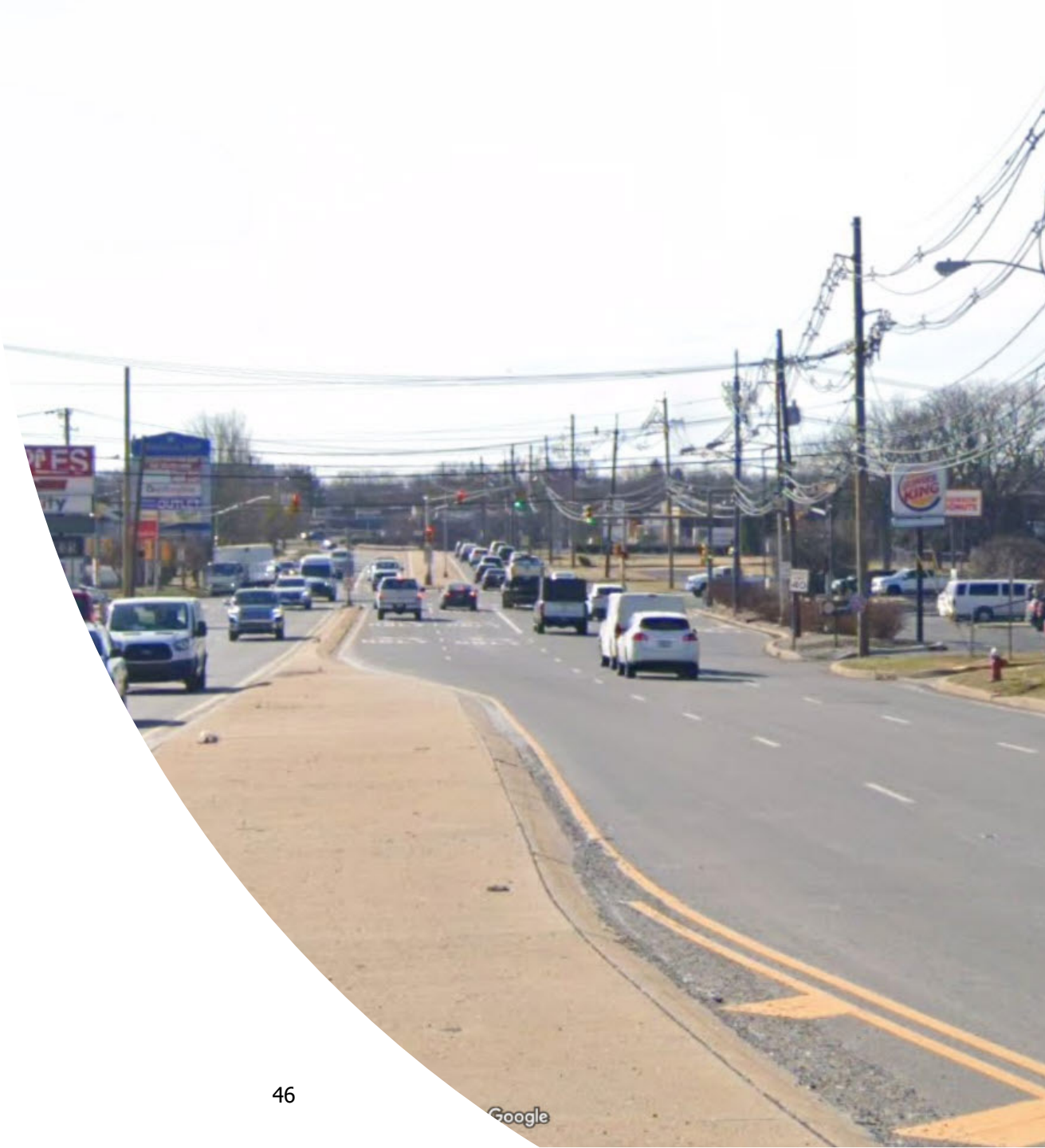
Corridor previously studied

Crash Trends Observed (2017 through 2021)

- 738 Crashes in Total (0 Fatal/5 SI)
- 4 Ped/Bike Crashes
- 18% of Crashes Result in Injury or Worse

High Occurrence Collisions

- Same Direction - Rear End (42%)
- Same Direction - Sideswipe (30%)
- Right Angle (14%)



Open Discussion

Other than what's been presented, are there any existing studies, traffic counts, etc., for this corridor? What other data should our team be aware of for this corridor?

Open Discussion

Are there any land development applications/approvals or road improvement projects adjacent to this segment of the corridor or nearby?

Open Discussion

What are your traffic safety observations and concerns about the corridor?

Any operational and maintenance safety issues (lighting, drainage, etc.) that we should be aware of?

Immediate Need: Selecting RSA Team Members

1. Select Corridors
2. Assemble RSA Team
3. Conduct Start-Up Meeting
4. Perform In-Field Review
5. De-Brief on Observations
6. Analyze & Report Findings
7. Present RSA Report
8. Finalize RSA Report



Logistics Plan (subject to change)

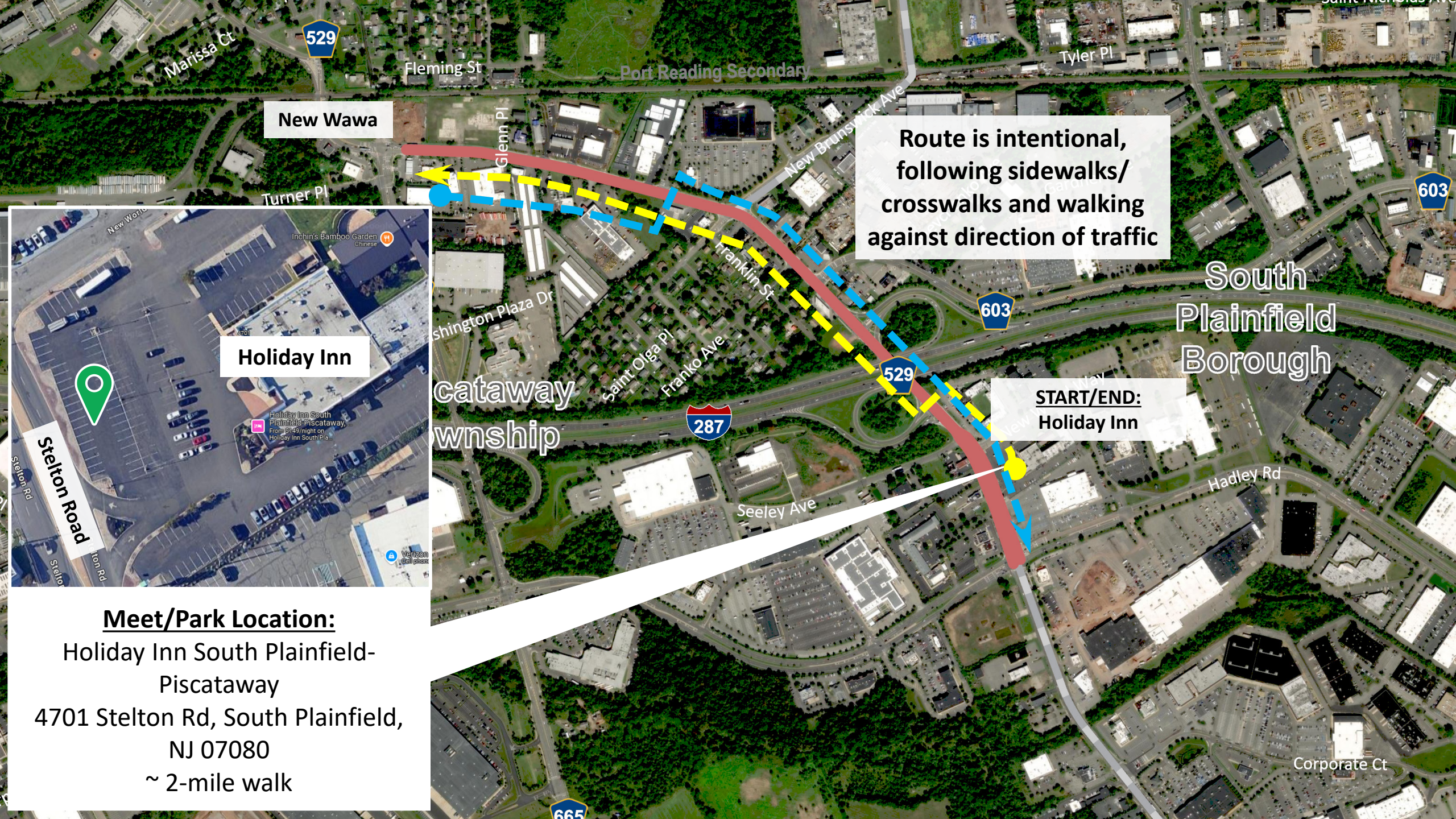
- **RSA currently scheduled for Wednesday, October 16th, 8-11am**
- **Rain date is Thursday, October 17th**
- **Start at Holiday Inn, walk north and back**
- **Corridor 1 mile in length; slightly over 2 miles of walking**
- **Materials available for note taking**
- **Photos and videos are encouraged**

Designate RSA Team Members

Who should we contact to participate?

- ✓ **Must haves**
  - ✓ **Public Repr.: Safety Task Force, Advocacy, Neighborhood Association**
  - ✓ **At least one municipal official to report back**
  - ✓ **Law enforcement**
  - ✓ **Engineer/planner**
- **Desired Participants**
  - **EMS responders**
  - **BOE**
  - **DPW**
  - **Councilpersons**
  - **Mayor**
  - **Consultants**
  - **Administrators**

Audit Details


New Wawa
Route is intentional, following sidewalks/ crosswalks and walking against direction of traffic
South Plainfield Borough
START/END:
Holiday Inn
Holiday Inn
Stelton Road
Meet/Park Location:
Holiday Inn South Plainfield-Piscataway
4701 Stelton Rd, South Plainfield, NJ 07080
~ 2-mile walk
Marissa Ct
Fleming St
Port Reading Secondary
Tyler Pl
Glenn Pl
New Brunswick Ave
Turner Pl
Franklin St
Saint Olga Pl
Franko Ave
Seeley Ave
Hadley Rd
Corporate Ct
529
603
287
665

Audit Form

- Categories: Segments, Intersections, Multi-Modal, and Experiential
- Mark the appropriate column for each question
- Any additional/specific details can be recorded under the "Notes" column

Middlesex County Office of Planning, Stelton Road RSA

Name: _____

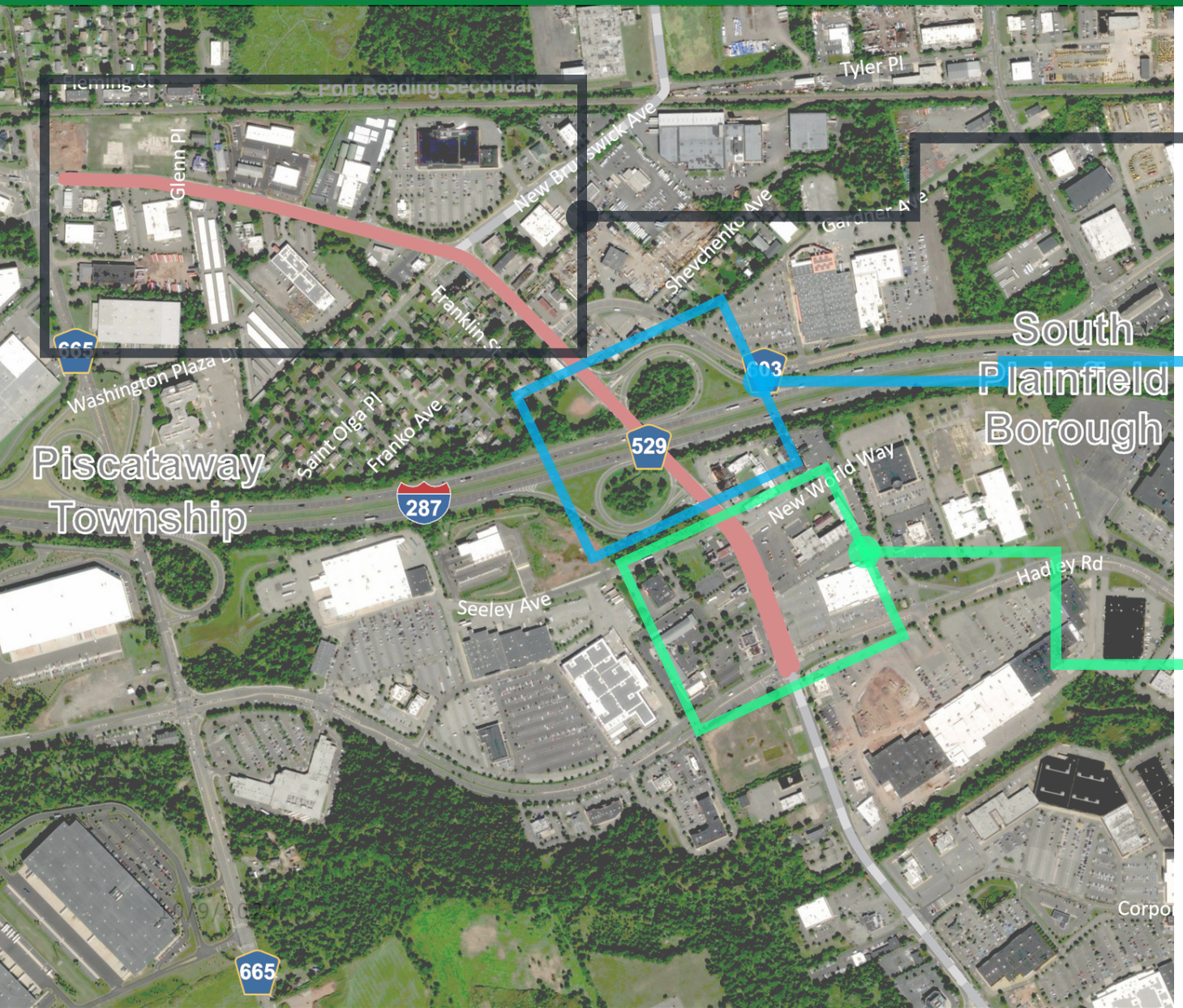
Date: _____

Corridor: _____

	Segments (between intersections)	YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

	Intersections	YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

Audit Considerations – Roadway Characteristics



- Mainly commercial
- Five Lanes
- High-speed

- I-287 Overpass
- Non-buffered sidewalks
- High-speed turning movements
- Reduced sightlines at ramps

- Commercial, Big-Box retail with large surface parking lots
- Divided
- Four lanes + turn lanes
- Long crossings
- Limited sidewalks

What to Look for



Sidewalk Trip Hazards



Sign Visibility Blocked by Trees



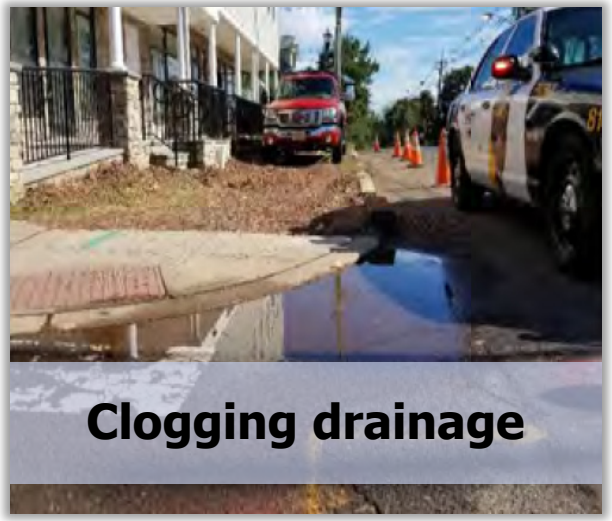
Sidewalk overgrowth (shrubs)



Signal Heads in need of upgrade



Cyclist provisions



Clogging drainage

What to Look for



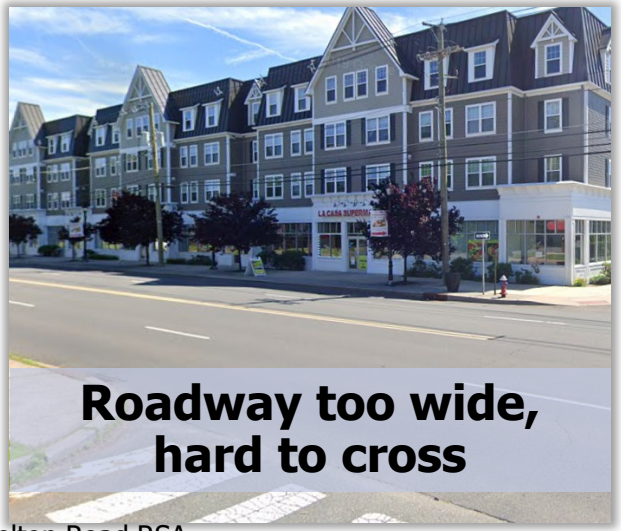
No curb ramp/ crosswalk present



Faded striping/Non-compliant curb ramps



Driveway aprons too wide, lack ADA



Roadway too wide, hard to cross



Traffic calming at curve/intersection

Middlesex County Office of Planning, Stelton Road RSA

What we saw



LONG CROSSINGS



MAINTENANCE



PEDESTRIAN VISIBILITY



HIGH SPEEDS

Middlesex County Office of Planning, Stelton Road RSA

What we saw



TRUCK ROUTE



FADED CROSSWALKS



SIGNAGE NOT CONSISTENT WITH MUTCD



LACK OF SIDEWALKS

Audit Considerations



COMFORTABLE CLOSED SHOES



WEATHER CONSCIOUS



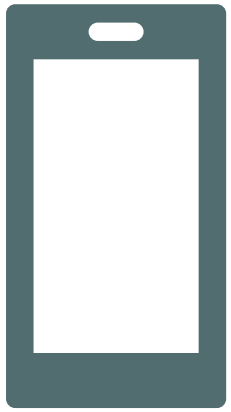
HIGH VISIBILITY VESTS

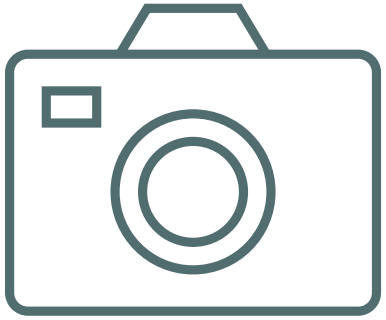
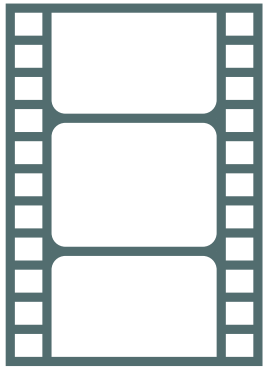


DOCUMENTING MATERIAL

How to Record Observations

- Photograph
- Pen/Pencil Paper
- Video
- Mobile Device
- Mental





How to Stay Involved

- **Help the County designate the RSA team: TODAY**
- **Conduct the RSAs with us: October**
- **Draft RSA Reports become available: December**
- **One lead contact rep. to attend next TAC: February 2025**
- **Public Meeting: Late Winter/Early Spring 2025**

Next Local Officials Meeting in January 2025

Study email contact: andrew.lappitt@co.middlesex.nj.us

MIDDLESEX
COUNTY • NJ
BOARD OF COUNTY COMMISSIONERS

Ronald G. Rios, ***Director***
Shanti Narra, ***Deputy Director***
Claribel A. Azcona-Barber
Charles Kenny
Leslie Koppel
Chanelle Scott McCullum
Charles E. Tomaro

Appendix E

Audit Materials

Name: _____

Date: _____

Corridor: _____

Segments (between intersections)		YES	NO	N/A	Notes:
1	Is the pavement and striping on the roadway in good condition?				
2	Are there any capacity or congestion issues (that you can tell)?				
3	Are there conflict points at driveways between cars, pedestrians, and/or bicyclists (limited sight lines, turning conflicts)?				
4	Is the sidewalk material continuous across driveways?				
5	Are there any visible drainage issues?				
6	Is there adequate lighting for both drivers and pedestrians (that you can tell)?				
7	Is the sidewalk wide enough for two people to walk side-by-side or pass one another?				
8	Is the sidewalk in good condition and free of tripping hazards?				
9	Is the sidewalk free of obstacles (utility poles, signs, trees, etc.)?				
10	Are there enough marked crossing opportunities?				
11	Did you observe any locations where pedestrians crossed outside of a marked crosswalk?				

Intersections		YES	NO	N/A	Notes:
12	Are street signs present, legible, and MUTCD compliant?				
13	Do any intersections feature unique layouts (approaches at acute angles, >4 approaches, etc.) that may impact safety?				
14	Are there any visible drainage issues?				
15	Are there any driveways in close proximity to intersections?				
16	Is lighting provided for all road users on all approaches (that you can tell)?				
17	At intersection approaches, are sight distances obstructed and, if so, by what?				
18	Do wide corner radii at intersections allow high-speed turns and/or lengthen crossing distances?				
19	At signalized intersections, are right turns on red allowed?				
20	At signalized intersections, do left turns conflict with opposing traffic and/or crossing pedestrians?				
21	Do all sidewalk approaches have ADA ramps? Are they located where the curb rounds the corner (at the "apex" of the corner)?				
22	Do the intersections have crosswalks at all legs/approaches?				
23	Are the crosswalks clearly marked and visible to drivers and pedestrians?				
24	Do parked cars or other objects obstruct visibility to/at crosswalks?				
25	Do crossings have pedestrian signal heads, countdown timers, and push buttons?				

	Multi-Modal	YES	NO	N/A	Notes:
26	Did you observe any bicyclists or scooterists riding along the corridor, including on the sidewalk?				
27	Are signs present to identify bus stops?				
28	Do bus stops have any amenities (shelters, seating)?				
29	Do bus stops have adequate lighting (that you can tell)?				
30	Are the bus stops accessible and free of obstructions?				
31	Are there visible pedestrian crossings near the bus stops (that you can tell)?				

	Experiential	YES	NO	N/A	Notes:
32	Do you feel safe and visible while walking or biking along the corridor?				
33	Do you feel safe and visible crossing the corridor at intersections?				

Appendix F

Audit Team

ROAD SAFETY AUDIT TEAM

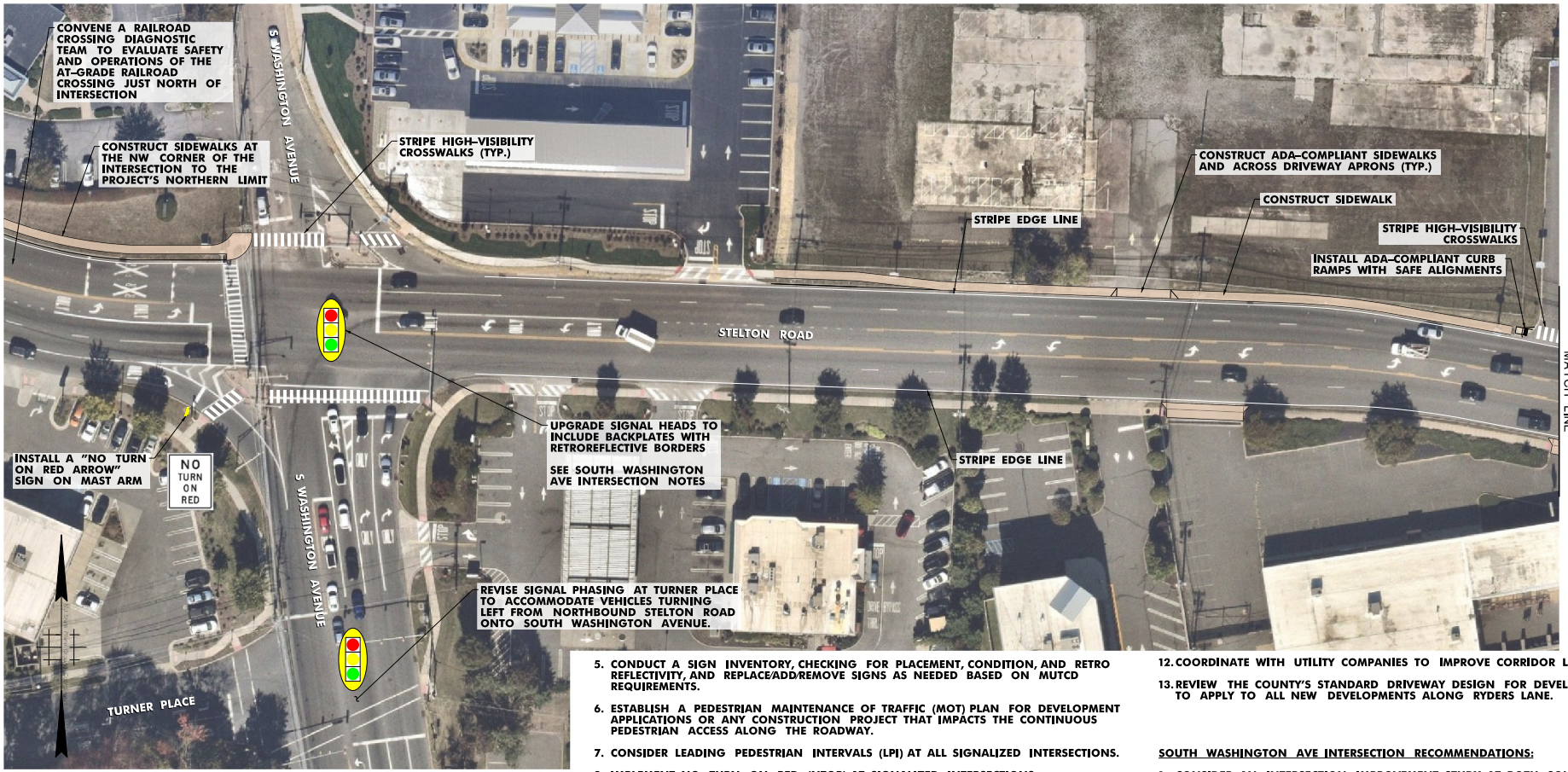
Name	Organization	Pre-Audit Meeting	RSA
Rob Bengivenga	South Plainfield		X
Dawn Corcoran-Gardella	Piscataway Township	X	
Glenn Cullen	South Plainfield	X	X
Christine Faustini	South Plainfield		X
Antonio Grasso	South Plainfield PD	X	
Joe Herrera	Piscataway Township	X	X
McKinley Mertz	South Plainfield (HGA)	X	
Len Miller	South Plainfield	X	X
Tim Morgan	South Plainfield		X
Peter J. Papa	South Plainfield PD	X	
Michelle Pilch	Piscataway Township	X	
Mike Smith	Piscataway Township		X
Brian Zielinski	South Plainfield PD		X
Bryan Adamcik	Middlesex County		X
Michael Dannemiller	Middlesex County	X	X
Andrew Lappitt	Middlesex County	X	X
Astha Negi	Middlesex County		X
Sergio Ruiz	Middlesex County		X
Brian Tobin	KMM		X
Sean Meehan	VTC		X
Andy Kaplan	NJTPA	X	X
William Long	NJTPA	X	
Patricia Newton	NJTPA		X
Marjoly De Leon	MBI	X	X
Peter Kremer	MBI		X
Joseph Amorosa	Stantec		X
Kati DiRaimondo	Stantec		X
Matthew Maher	Stantec	X	
Courtenay Mercer	MPA	X	
Kayla Myros	MPA	X	

Appendix G

Conceptual Plan

PISCATAWAY
SOUTH PLAINFIELD

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR-WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI-LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI-LANE PERMITTED TURNING MOVEMENTS TO PROTECTED-ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

SOUTH WASHINGTON AVE INTERSECTION RECOMMENDATIONS:

1. CONSIDER AN INTERSECTION IMPROVEMENT STUDY AT BOTH SOUTH WASHINGTON AVENUE AND TURNER PLACE, TO EVALUATE VOLUMES, GEOMETRY, NUMBER OF LANES, SIGNAL IMPROVEMENTS, DRAINAGE, AND STRIPING.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

STELTON ROAD (CR 529)

From S. Washington Ave
to Centennial Ave/Hadley Rd

MIDDLESEX COUNTY - NJ

NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

PISCATAWAY
SOUTH PLAINFIELD

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR-WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI-LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI-LANE PERMITTED TURNING MOVEMENTS TO PROTECTED-ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

STELTON ROAD (CR 529)
From S. Washington Ave
to Centennial Ave/Hadley Rd

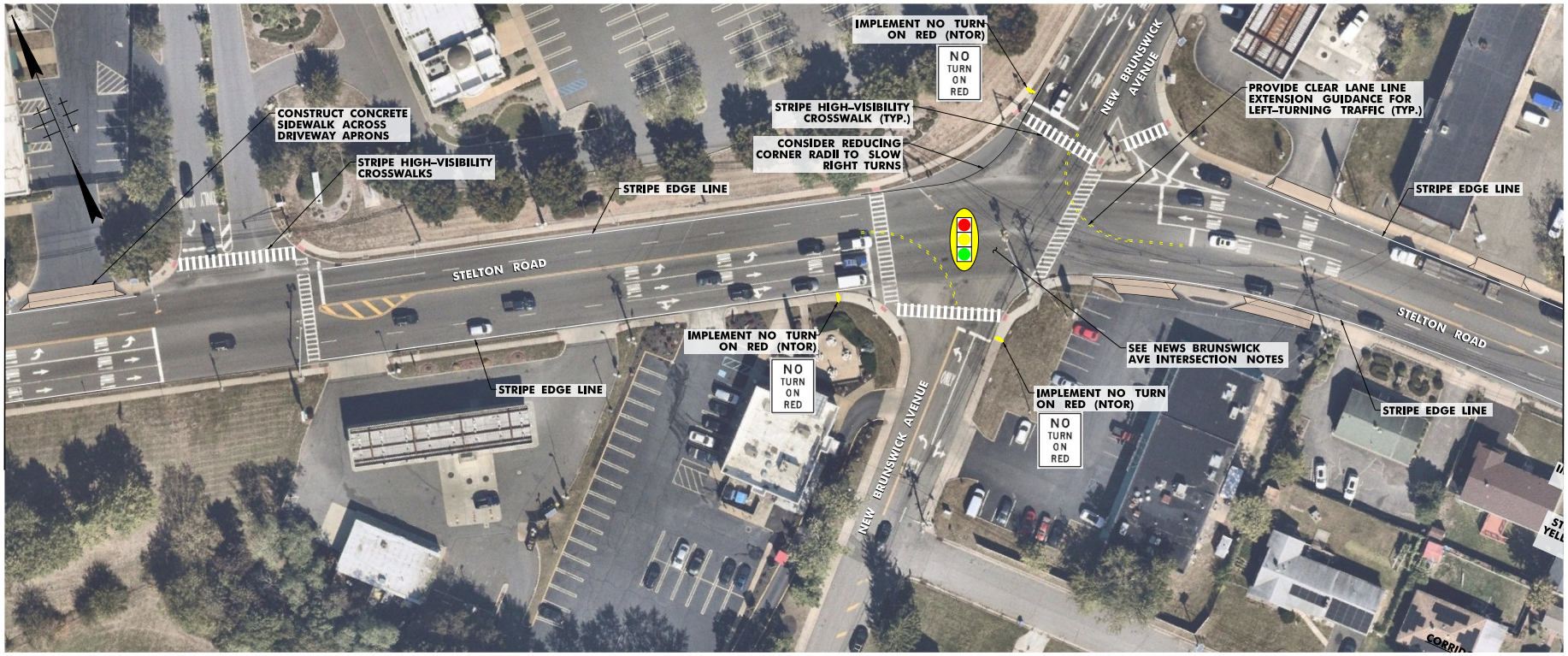
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

PISCATAWAY
SOUTH PLAINFIELD

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR-WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI-LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI-LANE PERMITTED TURNING MOVEMENTS TO PROTECTED-ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

NEW BRUNSWICK AVE INTERSECTION RECOMMENDATIONS:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS
2. REVISE THE SIGNAL PHASING FROM PROTECTED-PERMISSIVE TO PROTECTED ONLY FOR DUAL LEFT TURN LANES, OR CONSIDER SPLIT PHASING.
3. CONSIDER PROTECTED ONLY PHASING FOR EASTBOUND LEFT TURNS.
4. CONSIDER RELOCATING TRAFFIC SIGNAL CABINET.

NOT MEANT FOR CONSTRUCTION

SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

STELTON ROAD (CR 529)

From S. Washington Ave
to Centennial Ave/Hadley Rd

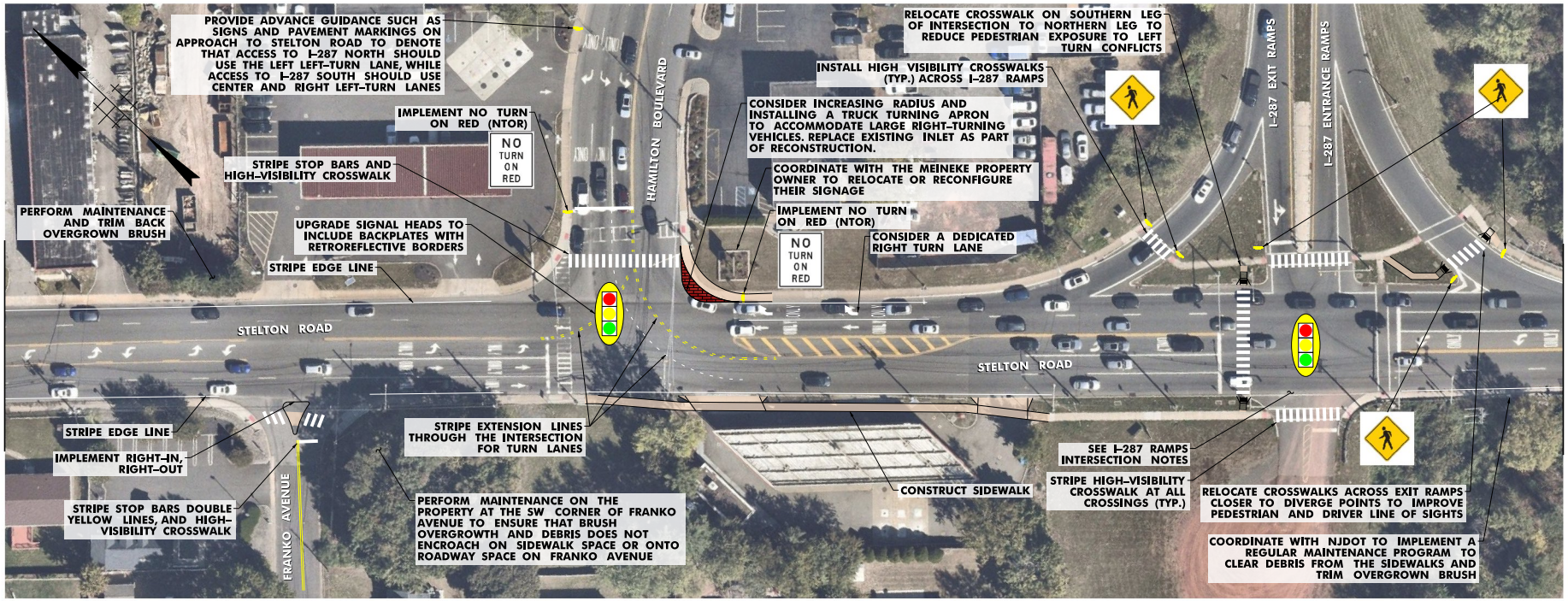
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

PISCATAWAY
SOUTH PLAINFIELD

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR–WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI–LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI–LANE PERMITTED TURNING MOVEMENTS TO PROTECTED–ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

I–287 RAMPS INTERSECTION RECOMMENDATIONS:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS
2. CONSIDER IMPLEMENTING PROTECTED LEFT TURNS DUE TO LIMITED SIGHT DISTANCE AT BOTH THE I–287 RAMPS
3. PREPARE AN NJDOT PROBLEM STATEMENT TO EVALUATE POTENTIAL CHANGES TO THE INTERCHANGE CONFIGURATION, ENCOMPASSING HAMILTON BLVD
4. CONSIDER REVISING THE GEOMETRY FOR BOTH RAMPS TO IMPROVE DRIVER SIGHTLINES.
5. RELOCATE PEDESTRIAN WARNING SIGNS FOR CROSSWALKS ACROSS UNSIGNALIZED RAMPS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

STELTON ROAD (CR 529)

From S. Washington Ave
to Centennial Ave/Hadley Rd

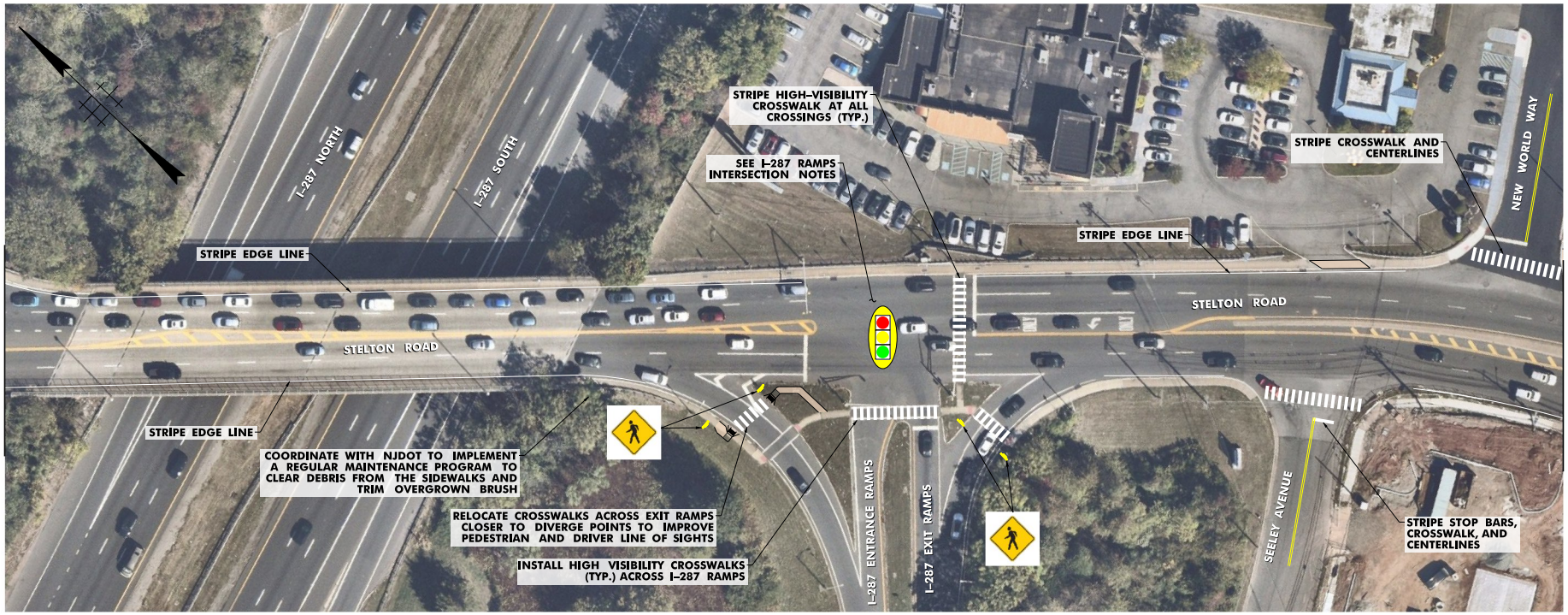
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

PISCATAWAY
SOUTH PLAINFIELD

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR-WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI-LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI-LANE PERMITTED TURNING MOVEMENTS TO PROTECTED-ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

I-287 RAMPS INTERSECTION RECOMMENDATIONS:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS
2. CONSIDER IMPLEMENTING PROTECTED LEFT TURNS DUE TO LIMITED SIGHT DISTANCE AT BOTH THE I-287 RAMPS
3. PREPARE AN NJDOT PROBLEM STATEMENT TO EVALUATE POTENTIAL CHANGES TO THE INTERCHANGE CONFIGURATION, ENCOMPASSING HAMILTON BLVD
4. CONSIDER REVISING THE GEOMETRY FOR BOTH RAMPS TO IMPROVE DRIVER SIGHTLINES.
5. RELOCATE PEDESTRIAN WARNING SIGNS FOR CROSSWALKS ACROSS UNSIGNALIZED RAMPS.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

STELTON ROAD (CR 529)

From S. Washington Ave
to Centennial Ave/Hadley Rd

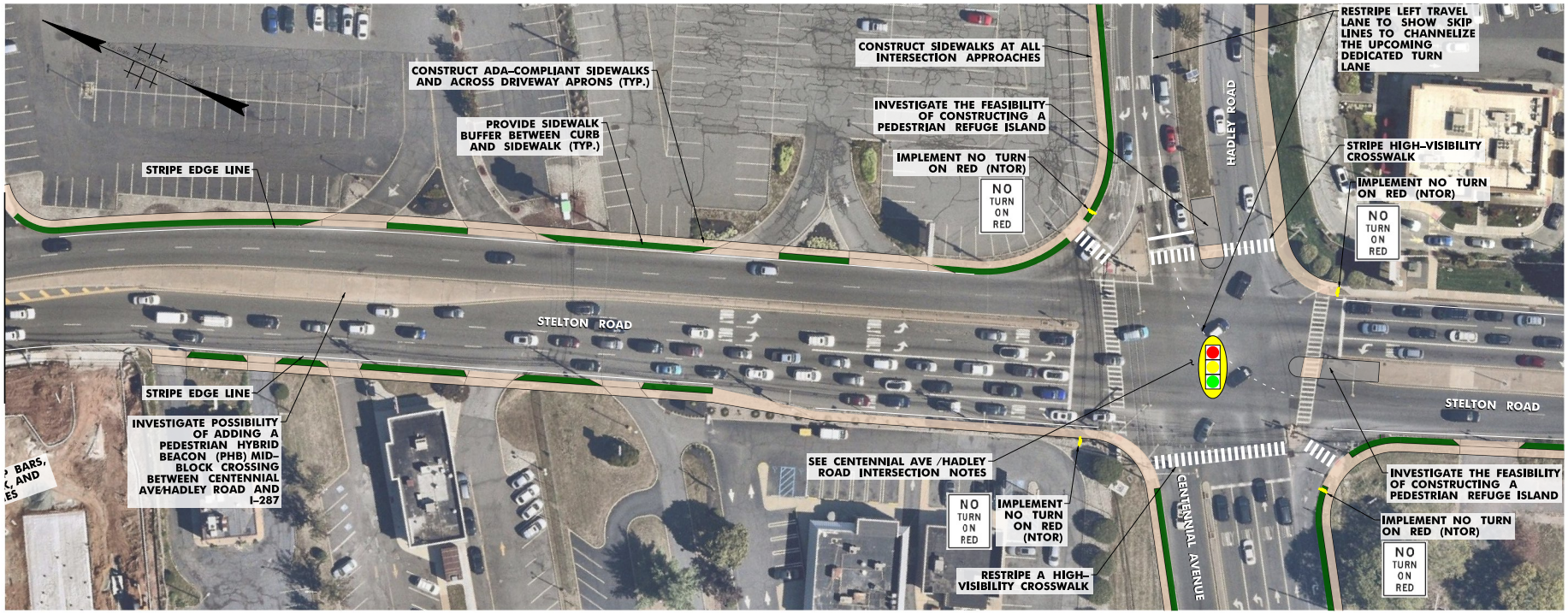
MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

PISCATAWAY
SOUTH PLAINFIELD

COUNTY OF MIDDLESEX



CORRIDOR WIDE NOTES:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. CONDUCT A LIGHTING ANALYSIS TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF LIGHTING UPGRADES.
3. CONDUCT A SIDEWALK ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS WHERE THE SIDEWALKS NEED REPAIR, REPLACEMENT, OR CONSTRUCTION.
4. CONDUCT A CURB RAMP ASSESSMENT TO IDENTIFY SPECIFIC LOCATIONS IN NEED OF UPGRADES FOR ADA COMPLIANCE.
5. CONDUCT A SIGN INVENTORY, CHECKING FOR PLACEMENT, CONDITION, AND RETRO REFLECTIVITY, AND REPLACE/ADD/REMOVE SIGNS AS NEEDED BASED ON MUTCD REQUIREMENTS.
6. ESTABLISH A PEDESTRIAN MAINTENANCE OF TRAFFIC (MOT) PLAN FOR DEVELOPMENT APPLICATIONS OR ANY CONSTRUCTION PROJECT THAT IMPACTS THE CONTINUOUS PEDESTRIAN ACCESS ALONG THE ROADWAY.
7. CONSIDER LEADING PEDESTRIAN INTERVALS (LPI) AT ALL SIGNALIZED INTERSECTIONS.
8. IMPLEMENT NO TURN ON RED (NTOR) AT SIGNALIZED INTERSECTIONS.
9. CONSIDER JURISDICTIONAL AGREEMENTS RELATED TO SIGNALS AND SIGNS.
10. EVALUATE CORRIDOR–WIDE SIGNAL PHASING TO ELIMINATE CONFLICTS BETWEEN PEDESTRIAN CROSSINGS AND MULTI–LANE PERMITTED TURNING MOVEMENTS. CONSIDER CHANGING MULTI–LANE PERMITTED TURNING MOVEMENTS TO PROTECTED–ONLY MOVEMENTS.
11. IDENTIFY STRATEGIES TO REDUCE VEHICULAR OPERATING SPEEDS THROUGH DESIGN AND DRIVER FEEDBACK ELEMENTS INCLUDING SPEED FEEDBACK SIGNS AND/OR NARROWER LANES (STRIPING).
12. COORDINATE WITH UTILITY COMPANIES TO IMPROVE CORRIDOR LIGHTING.
13. REVIEW THE COUNTY'S STANDARD DRIVEWAY DESIGN FOR DEVELOPMENTS TO APPLY TO ALL NEW DEVELOPMENTS ALONG RYDERS LANE.

CENTENNIAL AVE /HADLEY ROAD INTERSECTION RECOMMENDATIONS:

1. UPGRADE SIGNAL HEADS TO INCLUDE BACKPLATES WITH RETROREFLECTIVE BORDERS.
2. EVALUATE EXISTING SIGNAL TIMING TO ENSURE THAT PEDESTRIAN CROSSING TIME IS IN ACCORDANCE WITH MUTCD GUIDELINES OF 3.5 FEET PER SECOND.
3. PROVIDE FAR–SIDE OVERHEAD SIGNAL INDICATION OVER EACH RECEIVING LANE ON BOTH NORTHBOUND AND SOUTHBOUND STELTON ROAD.

NOT MEANT FOR CONSTRUCTION

30' 20' 10' 0 30' 60'
SCALE IN FEET

Michael Baker INTERNATIONAL

LEGEND

- HIGH VISIBILTY CROSSWALK
- CURB RAMP
- SIGN SYMBOL
- REFLECTIVE PAVEMENT MARKING
- SIDEWALK
- SIDEWALK BUFFER
- MOUNTABLE TRUCK APRON
- CONCRETE
- TRAFFIC SIGNAL

STELTON ROAD (CR 529)

From S. Washington Ave
to Centennial Ave/Hadley Rd

MIDDLESEX COUNTY - NJ

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

MIDDLESEX COUNTY ROAD SAFETY AUDITS (2025) CONCEPT PLANS

Appendix B Road Safety Audits Corridor Prioritization Memorandum

Stantec

Memo

To:	Andrew Lappitt, PP, AICP Middlesex County – Office of Planning	From:	Matthew Maher, PE, PTOE, RSP2I Stantec Consulting Services Inc. Senior Associate
Project/File:	215818346	Date:	September 11, 2024

Reference: Middlesex County Road Safety Audits Corridor Identification and Prioritization Methodology

1 Introduction

The Middlesex County Office of Planning (MCOP) intends to perform road safety audits (RSAs) on five corridors under Middlesex County's (the County's) jurisdiction in partnership with the North Jersey Transportation Planning Authority (NJTPA) through County Contract #CC-24-915, Professional Planning Consulting Services for Road Safety Audits (the Project). This memorandum describes the methodology and analysis performed by MCOP to select five corridors approximately one mile in length within County jurisdiction for RSA review.

2 Corridor Identification

An initial list of 20 corridors for consideration was developed based on the NJTPA's network screening segments lists for County roadways[1]. In coordination with the MCOP and County Engineering, at the beginning of the Project, 10 corridors were struck from the initial list of 20 due to the following reasons: 1) corridors were previously audited, 2) corridors had planned or recently constructed improvements, and 3) County Engineering provided general input to remove corridors based on competing interests. The remaining 10 corridors, their milepost extents, and the municipalities they transect are provided in **Table 1**.

[1] https://www.njtpa.org/NJTPA/media/Documents/Projects-Programs/Local-Programs/Local-Safety-Rural-Roads/Network%20Screening%20Lists/Middlesex%20County/Middlesex_Screening_Lists_2023_08_10_RoadwayCorridor.pdf

Table 1 – Short List of 10 Candidate Corridors

County Road (Street Name)	Mileposts	Municipalities
CR 529 (Stelton Road)	4.17-5.17	Piscataway/South Plainfield
CR 617 (Ryders Lane)	4.90-5.90	Milltown/East Brunswick
CR 673 (Ernston Road)	0.00-1.00	Sayreville/Old Bridge
CR 616 (New Brunswick Avenue)	0.80-1.80	Woodbridge/Perth Amboy
CR 535 (Washington Road)	29.50-30.50	Sayreville
CR 656 (Industrial Avenue/Riverside Drive/Smith Street)	1.09-2.09	Woodbridge
CR 653 (Amboy Avenue)	0.08-1.08	Perth Amboy
CR 529 (Plainfield Avenue)	0.10-1.10	Edison
CR 603 (Lakeview Avenue/Plainfield Avenue)	2.55-3.55	South Plainfield
CR 613 (Summerhill Road)	7.10-8.10	Spotswood/East Brunswick

3 Data Collection

Crash data, equity data, and information on corridors with previous studies were collected for the 10 corridors to aid in the corridor selection process.

3.1.1 Crash Frequency and Severity

Crash data for the years 2017 through 2021 was obtained from Numetric for each of the 10 corridors. Crash frequency and severity was quantified using the equivalent property damage only (EPDO) method, where each crash was given a weight based on the crash injury severity. The weighting factor is based on established societal crash costs for each injury severity level, relative to that for a property damage only crash. The crash severity level weights from the NJTPA network screening list were used and are listed in **Table 2**.

Table 2 – Crash Severity and EPDO Weights

Crash Severity	EPDO Weight
Property Damage Only	1.0000
Possible Injury	10.8476
Non-Incapacitating Injury	17.1973
Incapacitating Injury	56.9173
Fatal	56.9173

3.1.2 Number of Pedestrian and Bicycle Crashes

The number of pedestrian and bicycle crashes for each corridor was determined using the “Total Pedestrian and/or Bicyclist Involved” field in the crash dataset.

3.1.3 Equity Score

Equity data was obtained from the NJTPA Equity Analysis Tool. The composite equity score for the census tract each corridor transected was recorded. Where a corridor transected multiple census tracts, the average of the composite equity scores was calculated.

3.1.4 Previous Studies

The Middlesex County Office of Planning provided information on which corridors had previous studies. This is a binary criterion; corridors that had a previous study received a value of one, while corridors that did not have previous studies received a value of zero.

3.1.5 Data Summary

The data collected in this section is summarized in **Table 3**.

Table 3 – Data Summary for Short-Listed Corridors

County Road (Street Name)	Mileposts	Municipalities	EPDO	# of Ped/Bike Crashes	Equity Composite Score	Previous Studies
CR 529 (Stelton Road)	4.17-5.17	Piscataway/South Plainfield	2,574.31	5	20.50	1
CR 617 (Ryders Lane)	4.90-5.90	Milltown/East Brunswick	1,383.37	1	22.50	0
CR 673 (Ernston Road)	0.00-1.00	Sayreville/Old Bridge	1,433.39	0	20.00	1
CR 616 (New Brunswick Avenue)	0.80-1.80	Woodbridge/Perth Amboy	753.28	2	26.75	0
CR 535 (Washington Road)	29.50-30.50	Sayreville	804.08	5	19.50	1
CR 656 (Industrial Avenue/Riverside Drive/Smith Street)	1.09-2.09	Woodbridge	1,075.40	0	18.50	0
CR 653 (Amboy Avenue)	0.08-1.08	Perth Amboy	1,281.55	9	27.75	0
CR 529 (Plainfield Avenue)	0.10-1.10	Edison	1,880.09	10	21.25	1
CR 603 (Lakeview Avenue/Plainfield Avenue)	2.55-3.55	South Plainfield	784.31	9	18.50	0
CR 613 (Summerhill Road)	7.10-8.10	Spotswood/East Brunswick	996.50	2	19.00	0

4 RSA Corridor Priorities

The Technical Advisory Committee (TAC) for the Project convened on August 21st, 2024; during the meeting, participants were asked how they would rank four criteria for determining corridor prioritization. The criteria and the percent of participants that selected each as their first, second, third, or fourth priority are listed in **Table 4**.

Table 4 – TAC Participant Criteria Priority Ranking Results

Criteria	First Priority	Second Priority	Third Priority	Fourth Priority
Crash frequency and severity	54%	8%	23%	15%
Number of pedestrian and bicycle crashes	31%	46%	23%	0%
Equity score	15%	31%	46%	8%
Corridor has previous studies	0%	15%	8%	77%

The majority of respondents selected crash frequency and severity as their first priority and previous studies on the corridor as their fourth priority. The plurality of respondents selected the number of pedestrian and bicycle crashes as their second priority, and equity score as their third priority.

After some discussion of the issues on each corridor, TAC participants were asked to select three corridors for an RSA to be conducted. The percent of respondents that selected each corridor is displayed in **Table 5**.

Table 5 – TAC Participant Corridor Selection Results

County Road (Street Name)	Municipalities	TAC Respondents that Selected Corridor for an RSA
CR 529 (Stelton Road)	Piscataway/South Plainfield	58%
CR 617 (Ryders Lane)	Milltown/East Brunswick	42%
CR 673 (Ernston Road)	Sayreville/Old Bridge	42%
CR 616 (New Brunswick Avenue)	Woodbridge/Perth Amboy	25%
CR 535 (Washington Road)	Sayreville	0%
CR 656 (Industrial Avenue/Riverside Drive/Smith Street)	Woodbridge	8%
CR 653 (Amboy Avenue)	Perth Amboy	67%
CR 529 (Plainfield Avenue)	Edison	33%
CR 603 (Lakeview Avenue/Plainfield Avenue)	South Plainfield	8%
CR 613 (Summerhill Road)	Spotswood/East Brunswick	17%

5 Corridor Prioritization and Ranking

Using the votes for ranked criterion and corridor selection, a percentage weight for each criterion was developed in coordination with NJTPA, with a 40 percent weight given to crash frequency and severity, 30 percent given to number of pedestrian and bicycle crashes, 20 percent to the equity score, five percent to previous studies on the corridor, and five percent weight to the percent of respondents that select the corridor for an RSA. It is important to note that more scientific and data driven approaches exist for determining the weighting factors based on the ranked priorities of the TAC, which may have changed the rankings of the corridors. However, due to the tight timeline of the Project, these weighting factors were used.

As the data for each criterion have different orders of magnitude (EPDO is in the thousands and hundreds, pedestrian/bicycle crashes in the ones, etc.), applying the weighting factors as-is would result in a corridor ranking that is only reflective of EPDO. Therefore, the data for each criterion was adjusted to similar orders of magnitude; by doing so, the weighting factors for each criterion can affect the corridor prioritization and rank in a manner of more even consideration. As such, EPDO values were divided by one thousand; the number of pedestrian and bicycle crashes and equity composite scores were divided by ten; the existence of previous studies remained binary; and the percent of respondents that selected the corridor for an RSA was multiplied by ten. The adjusted data was multiplied by the previously stated weighting factors and summed for each corridor. The adjusted data for each corridor, and the resulting corridor scores and ranks (higher corridor score and lower rank values means corridor is more justified for RSA review) are detailed in **Table 6**.

Reference: **Middlesex County Road Safety Audits Corridor Prioritization Methodology**

Table 6 – Scores and Ranking for Short-Listed Corridors

Corridor Rank	County Road (Street Name)	Mileposts	Municipalities	Adjusted EPDO	Adjusted # of Ped/Bike Crashes	Adjusted Equity Composite Score	Previous Studies	Adjusted TAC Corridor Selection	Corridor Score
1	CR 529 (Stelton Road)	4.17-5.17	Piscataway/South Plainfield	2.57	0.5	2.05	1	5.8	1.93
4	CR 617 (Ryders Lane)	4.90-5.90	Milltown/East Brunswick	1.38	0.1	2.25	0	4.2	1.24
5	CR 673 (Ernston Road)	0.00-1.00	Sayreville/Old Bridge	1.43	0.0	2.00	1	4.2	1.23
6	CR 616 (New Brunswick Avenue)	0.80-1.80	Woodbridge/Perth Amboy	0.75	0.2	2.68	0	2.5	1.02
9	CR 535 (Washington Road)	29.50-30.50	Sayreville	0.80	0.5	1.95	1	0.0	0.91
10	CR 656 (Industrial Avenue/Riverside Drive/Smith Street)	1.09-2.09	Woodbridge	1.08	0.0	1.85	0	0.8	0.84
3	CR 653 (Amboy Avenue)	0.08-1.08	Perth Amboy	1.28	0.9	2.78	0	6.7	1.67
2	CR 529 (Plainfield Avenue)	0.10-1.10	Edison	1.88	1	2.13	1	3.3	1.69
7	CR 603 (Lakeview Avenue/Plainfield Avenue)	2.55-3.55	South Plainfield	0.78	0.9	1.85	0	0.8	0.99
8	CR 613 (Summerhill Road)	7.10-8.10	Spotswood/East Brunswick	1.00	0.2	1.90	0	1.7	0.92

Reference: Middlesex County Road Safety Audits Corridor Prioritization Methodology

Based on the analysis performed, it is recommended to perform RSAs on the five corridors listed in **Table 7**.

Table 7 – Ranked Top Five Corridors

Corridor Rank	County Road (Street Name)	Mileposts	Municipalities	Corridor Score
1	CR 529 (Stelton Road)	4.17-5.17	Piscataway/South Plainfield	1.93
2	CR 529 (Plainfield Avenue)	0.10-1.10	Edison	1.69
3	CR 653 (Amboy Avenue)	0.08-1.08	Perth Amboy	1.67
4	CR 617 (Ryders Lane)	4.90-5.90	Milltown/East Brunswick	1.24
5	CR 673 (Ernston Road)	0.00-1.00	Sayreville/Old Bridge	1.23

Regards,

STANTEC CONSULTING SERVICES INC.



Matthew Maher PE, PTOE, RSP_{2I}
Senior Associate, Traffic Engineer
Mobile: 973 902-3143
Direct: 407 638-2012
matthew.maher@stantec.com

Appendix C Public Engagement Results and Exhibits

Middlesex County Road Safety Audits Appendix C: Public Engagement Results and Exhibits

CC-24-915 Middlesex County Road Safety Audits

June 2025

Prepared for:
Middlesex County Office of Planning

MIDDLESEX COUNTY • NJ

North Jersey Transportation Planning Authority

NJTPA

Prepared by:
Stantec Consulting Services Inc.

Stantec

Michael Baker International, Inc.

Michael Baker INTERNATIONAL

Mercer Planning Associates, LLC

MPA MERCER PLANNING ASSOCIATES

Disclaimers

Study Funding and Responsibility

This report, and all appended Road Safety Audit reports and study materials, have been prepared as part of the North Jersey Transportation Planning Authority (NJTPA) Subregional Studies Program with financing by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The NJTPA is solely responsible for its contents.

Protection of Discovery and Admission into Evidence

23 U.S.C. 407 states "*Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.*"

Acknowledgements

Study Team

County Board of Commissioners

Ronald G. Rios, Director

Shanti Narra, Deputy Director

Claribel A. Azcona-Barber, Commissioner

Charles Kenny, Commissioner

Leslie Koppel, Commissioner

Chanelle Scott McCullum, Commissioner

Charles E. Tomaro, Commissioner

County Planning Board

Jason Friedman, Chairperson

Ronald G. Rios, Director of the BOCC

Charles Kenny, County Commissioner

Ronald Sendner, PE, County Engineer

Hemant Patel, Vice Chairperson

Michael Kolbasowski

Stephany Kim-Chohan

Shahrukh Jovindah

Saketa Chadalavada

Gail Lalla, Alternate Member

Joseph Johnson, Alternate Member

County Office of Planning

Vijayant Rajvanshi, AICP, Planning Director

Astha Negi, Project Manager, Senior Planner

Michael Dannemiller, PE, Supervising Engineer

Andrew Lappitt, AICP, PP, Principal Planner

Denise Nickel, AICP, PP, Principal Planner

Emily Link, Office Services Manager

County Office of Engineering

Ronald Sendner, PE, County Engineer

George Fallat, PE, Supervising Engineer

Other County Offices

Khalid Anjum, Transportation Department Head

John Carroll, Director of Public/Government Affairs (PGA)

Steve Dalina,PGA

NJTPA

Lois Goldman, Director, Long Range Transportation Planning

Andrew Kaplan, PE, PTOE, Manager, Planning for Operations and Technology

William Long, Principal Planner

Patricia Newton, PE, Principal Planner

Stantec Consulting Services Inc.

Adam Catherine, PE, PTOE, Principal-In-Charge

Matthew Maher, PE, RSP_{2I}, Project Manager
Kush Bhagat, PE, RSP_1, IMSA II, Traffic Engineer

Joseph Amorosa, PE, PTOE, Traffic Engineer

Michael Baker International

Anthony Durante, AICP, RSP_1, Sub PM

Peter Kremer, AICP, PP, Senior Associate

Prateeksha Sehgal, AICP, Transpo. Planner

Mercer Planning Associates

Courtenay Mercer, AICP, PP, Sub PM

Reya Singhi, Associate Planner

Technical Advisory Committee & Local Officials

AARP

Sarah Mack, Director of Outreach/Engagement

Michelle Murphy, NJ Leadership Volunteer

Federal Highway Administration

Alan Huff, Safety Specialist

Keep Middlesex Moving

Brian Tobin, Executive Director

Arlene Holt, Marketing & Outreach Manager

Brian Tobin, Executive Director

Christopher Gonda, Program Manager

NJ Bike & Walk Coalition

Debra Kagan, Executive Director

NJ TRANSIT

Elmira Buongiorno, Director of Bus Safety

Farzana Ahmed, Program Specialist 4

Leah Katz, Director of Programmatic Planning

Michael Swan, Principal Facilities Planner

New Jersey Department of Transportation

Meredith Hammond, OCCR

John Fam, Executive Manager, DTE

Brendan Rahl, Supervising Highway Eng., DTE

Nicholas Chiavoni, Senior Traffic Eng., DTE

Port Authority of NY & NJ

Ahsan Ali, Traffic Engineer

Tri-State Transportation Campaign

Corey Hannigan, Active Transportation PM

Vorhees Transportation Center

Leigh Ann Von Hagen, Managing Directors

Sean Meehan, Research Project Manager

East Brunswick Township

Mark Kataryniak, Manager of Engineering Srvs.

Joseph Criscuolo, Township Administrator

Keith Kipp, Director of Planning/Engineering

Edison Township

Sonia Alves-Viveiros, Business Administrator

Hank Bignell, Director of Planning/Engineering

Milltown Borough

Ralph Jasionowski, Public Works Director

Frederick Carr, Business Administrator

Monica Orlando, Municipal Clerk

City of Perth Amboy

Pascal Medina, Traffic Lt.

Michael Greene, Business Administrator

Tashilee Vazquez, Director, Econ./Comm. Dev.

Old Bridge Township

Anahita Feltz, Business Administrator

Veena Sawant, Township Planner

Piscataway Township

Joseph Herrera, Supervisor of Engineering

Timothy Dacey, Business Administrator

Dana Korbman, Chief of Staff

Sayreville Borough

Zak Schlichte, Deputy Business Administrator

Glenn Skarzynski, Business Administrator

Jessica Morelos, Municipal Clerk

Beth Magnani, Planning Board Secretary

South Plainfield Borough

Glenn Cullen, Administrator – CFO

Stephanie Merola, Planning/Zoning Secretary

Table of Contents

Study Funding and Responsibility ii
Protection of Discovery and Admission into Evidence ii
Study Team iii
Technical Advisory Committee & Local Officials iii
1 Public Engagement Plan 2
2 Communications 2
2.1 Communications Materials 2
3 Technical Advisory Committee 5
3.1 Technical Advisory Committee Meeting #1 Summary 5
3.2 Technical Advisory Committee Meeting #2 Summary 11
3.3 Technical Advisory Committee Meeting #3 Summary 14
4 Local Officials Meetings 15
4.1 Local Officials Meeting: Pre-RSA 15
4.1.1 Amboy Avenue Local Officials Meeting #1 Summary 15
4.1.2 Ernston Road Local Officials Meeting #1 Summary 18
4.1.3 Plainfield Avenue Local Officials Meeting #1 Summary 21
4.1.4 Ryders Lane Local Officials Meeting #1 Summary 24
4.1.5 Stelton Road Local Officials Meeting #1 Summary 27
4.2 Local Officials Meetings: Post-RSA 30
4.2.1 Amboy Avenue Local Officials Meeting #2 Summary 31
4.2.2 Ernston Road Local Officials Meeting #2 Summary 32
4.2.3 Plainfield Avenue Local Officials Meeting #2 Summary 33
4.2.4 Ryders Lane Local Officials Meeting #2 Summary 34
4.2.5 Stelton Road Local Officials Meeting #2 Summary 35
5 Public Information Sessions 38
5.1 What We Heard 39
5.2.1 Amboy Avenue Public Information Session 51
5.2.2 Ernston Road Public Information Session 47
4.2.3 Plainfield Avenue Public Information Session 55
4.2.4 Ryders Lane Local Public Information Session 600
4.2.5 Stelton Road Local Public Information Session 69

List of Tables

Table 1 - Local Officials Meetings Dates and Attendance 15
Table 2 - Amboy Avenue Public Information Session: Mps & General Comments 43
Table 3 - Ernston Road Public Information Session: Map & General Comments 50
Table 4 - Plainfield Avenue Public Information Session: Maps & General Comments 57
Table 5 - Ryders Lane Public Information Session: Map & General Comments 63
Table 6 - Stelton Road Public Information Session: Map & General Comments 72

List of Figures

Figure 1 - Public Information Session Social Media Images 3
Figure 2 - Public Information Session Flyers 4
Figure 3 - TAC Meeting #1 Poll Results: Analysis Criteria Priorities 7
Figure 4 - TAC Meeting #1 Poll Results: Top Corridors to Conduct an RSA 10
Figure 5 -Public Information Session Locations & Dates 38
Figure 6 - Public Information Sessions (All Corridors): Perceptions of Safety 39
Figure 7 - Public Information Sessions (All Corridors): Corridor Safety Concerns (Design) 40
Figure 8 - Public Information Sessions (All Corridors): Corridor Safety Concerns (Behaviors) 40
Figure 9 – Amboy Avenue Public Information Session: Perceptions of Safety 41
Figure 10 - Amboy Avenue Public Information Session: Corridor Improvement Priorities 42
Figure 11 - Amboy Avenue Public Information Session: Corridor Safety Concerns 42
Figure 12 - Amboy Avenue Public Information Session: Map 43
Figure 13 - Amboy Avenue Public Information Session Boards 45
Figure 14 - Ernston Road Public Information Session: Perceptions of Safety 47
Figure 15 - Ernston Road Public Information Session:Corridor Improvement Priorities 48
Figure 16 - Ernston Road Public Information Session: Corridor Safety Concerns 48
Figure 17 - Ernston Road Public Information Session: Map 49
Figure 18 – Ernston Road Public Information Session Boards 53
Figure 19 - Plainfield Avenue Public Information Session: Perceptions of Safety 55
Figure 20 - Plainfield Avenue Public Information Session: Corridor Safety Improvements 56
Figure 21 - Plainfield Avenue Public Information Session: Map 57
Figure 22 – Plainfield Avenue Public Information Session Boards 58
Figure 23 – Ryders Lane Public Information Session: Perceptions of Safety 60
Figure 24 - Ryders Lane Public Information Session: Corridor Improvement Priorities 61
Figure 25 - Ryders Lane Public Information Session: Corridor Safety Concerns 61
Figure 26 - Ryders Lane Public Information Session: Map 62
Figure 27 – Ryders Lane Public Information Session Boards 67
Figure 28 - Stelton Road Public Information Session: Perceptions of Safety 69
Figure 29 - Stelton Road Public Information Session: Corridor Improvement Priorities 70
Figure 30 - Stelton Road Public Information Session: Corridor Safety Concerns 70
Figure 31 - Stelton Road Public Information Session: Map 71
Figure 32 – Stelton Road Public Information Session Boards 75

1 Public Engagement Plan

As laid out in the Public Engagement Plan (PEP), the County and project team led a multi-pronged and iterative effort to solicit stakeholder and community feedback to inform the vision for safer roadways in Middlesex County. Outreach included substantive discussions with key stakeholders about corridor selection, on-the-ground conditions, and draft recommendations through a series of Technical Advisory Committee and Local Officials meetings. Draft recommendations were also informed by the Road Safety Audits (RSA) themselves *(see **Chapter 8**)* and through Public Information Sessions with community members in each of the corridor study area communities. Stakeholder and public engagement was supported through communications activities, including a project webpage, flyers, social media, press releases, and partnerships with stakeholders to distribute the same to their respective constituencies.

2 Communications

The public involvement process began with the launch of a project webpage (www.middlesexcountynj.gov/roadsafety) housed on the County's website, where stakeholders could find information about the study's purpose, project updates, resources, and ways to get involved. The project team prepared press release content, a blast email template, and project-branded social media content and flyers for use in Middlesex County, municipal, and external stakeholder communications. The advertising materials were translated into the top two to three non-English languages spoken in each corridor community.

2.1 Communications Materials

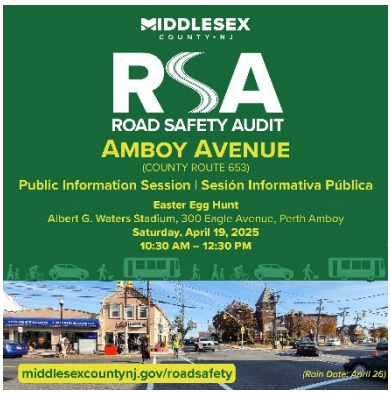
2.1.1 Communications Sharekit

The communications materials were compiled into multilingual "communications sharekits" that provided easy-to-use, cut-and-paste content for distribution by partners. A copy of the communications sharekit can be found at: Middlesex RSA_All Corridors_Ext Comms ShareKit.pdf

2.1.2 Social Media

Figure 1 - Public Information Session Social Media Images









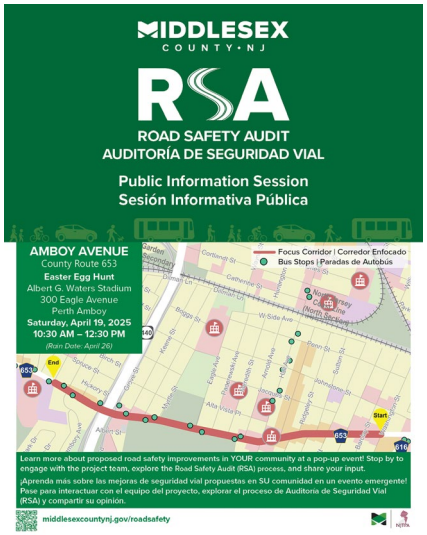




2.1.3 Flyers

Figure 2 - Public Information Session Flyers

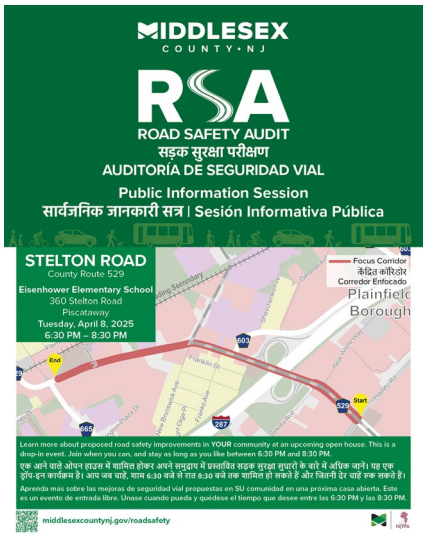












3 Technical Advisory Committee

Meeting three times throughout the planning process, the Technical Advisory Committee (TAC) provided qualitative support for the project by informing and collaborating with the County and project team to develop and implement the PEP and defining priorities for the Middlesex County RSAs. They also served as a technical resource for the project team, providing necessary background documentation, insights into on-the-ground conditions, and feedback about localized implications and ramifications of draft strategy recommendations. Several TAC members also participated in the RSAs, lending their expertise to the observations and recommendations for specific corridors.

In addition to the TAC meetings, the County and project team held technical working group meetings with the New Jersey Department of Transportation (NJDOT) to determine appropriateness and feasibility of any draft recommendations for roadway segments under their authority. The project team integrated any necessary revisions prior to presenting the draft recommendations to the TAC or municipal partners.

Brief synopses of the TAC meetings can be found in **Section 5: Public & Stakeholder Input** of the Middlesex Road Safety Audit report. The following pages contain full summaries, along with links to the PowerPoint presentations from each meeting.

3.1 Technical Advisory Committee Meeting #1 Summary

Date:	Wednesday, August 21, 2024
Time:	2:00 PM – 3:00 PM
Location:	Virtual via Zoom

TAC Members in Attendance

- Farzana Ahmed, NJDOT
- Elmira Buongiorno, NJ Transit
- Christopher Gonda, Keep Middlesex Moving
- Corey Hannigan, Tri-State Transportation Campaign
- Arlene Holt, Keep Middlesex Moving
- Debra Kagan, NJ Bike & Walk Coalition
- Andy Kaplan, NJTPA
- Leah Katz, NJ Transit
- William Long, NJTPA
- Sean Meehan, Voorhees Transportation Center
- Michael Swan, NJ Transit

Middlesex County Staff in Attendance

- Khalid Anjum, Middlesex County Dept of Transportation
- Michael Dannemiller, Middlesex County Planning
- George Fallat, Middlesex County Engineering
- Andrew Lappitt, Middlesex County Planning
- Jack Molenaar, Middlesex County Planning
- Denise Nickle, Middlesex County Planning
- Linda Weber, Middlesex County Planning

Project Team in Attendance

- Kati DiRaimondo, Stantec
- Kush Bhagat, Stantec
- Matthew Maher, Stantec
- Anthony Durante, Michael Baker International
- Marjoly DeLeon, Michael Baker International
- Courtenay Mercer, Mercer Planning Associates
- Reya Singhi, Mercer Planning Associates

Meeting Purpose

The purpose of this meeting was to introduce the Technical Advisory Committee (TAC) to the Middlesex County RSA project and gather insights to shape the project approach, discuss the goals of the study, and guide the selection of five County roadway corridors to conduct audits.

A copy of the meeting PowerPoint can be found at Middlesex RSA_TAC Meeting #1 PPT.pdf

Project Overview

Andrew Lappitt, Project and Program Manager at the Middlesex County Office of Planning (MCOP), kicked off the meeting by welcoming the attendees and thanking them for their participation. He facilitated introductions of the project team and TAC members present.

Lappitt provided a brief overview of the RSA project, noting that Middlesex is the first county in New Jersey to adopt a Vision Zero Plan. He emphasized that the RSA is a critical step toward fulfilling the County's commitment to promoting a culture of safety, responsibility, and awareness.

Matthew Maher of Stantec provided a brief overview of the meeting agenda and the project background. Maher explained the goal of the project is to reduce fatal and serious injury crashes by enhancing facilities for pedestrians and bicyclists, implementing measures to reduce vehicle speeds, and finding ways to incentivize and improve the safety of transit usage. Maher highlighted the success of two previous RSAs conducted by Middlesex County: 1) Livingston Avenue in New Brunswick, which led to a road diet corridor redesign, and 2) Albany Street near the New Brunswick train station, which resulted in ADA and signalization improvements.

Public Engagement Overview

Courtenay Mercer of Mercer Planning Associates provided an overview of the various engagement activities planned for the project, including an equity analysis to identify vulnerable populations within the County, scheduling of Local Officials Meetings once the corridors are selected, and holding a series of Public Information Centers to gather input from the public about RSA recommendations. Communications initiatives, including a project website, newsletters, and social media will support outreach efforts.

Mercer reviewed the purpose and timeline for the TAC and emphasized the importance of the members' technical expertise, local knowledge, and any relevant studies or documents they may have. As the project moves into the public engagement phase, TAC members will be asked to assist in connecting with the community and help publicize outreach efforts within their networks.

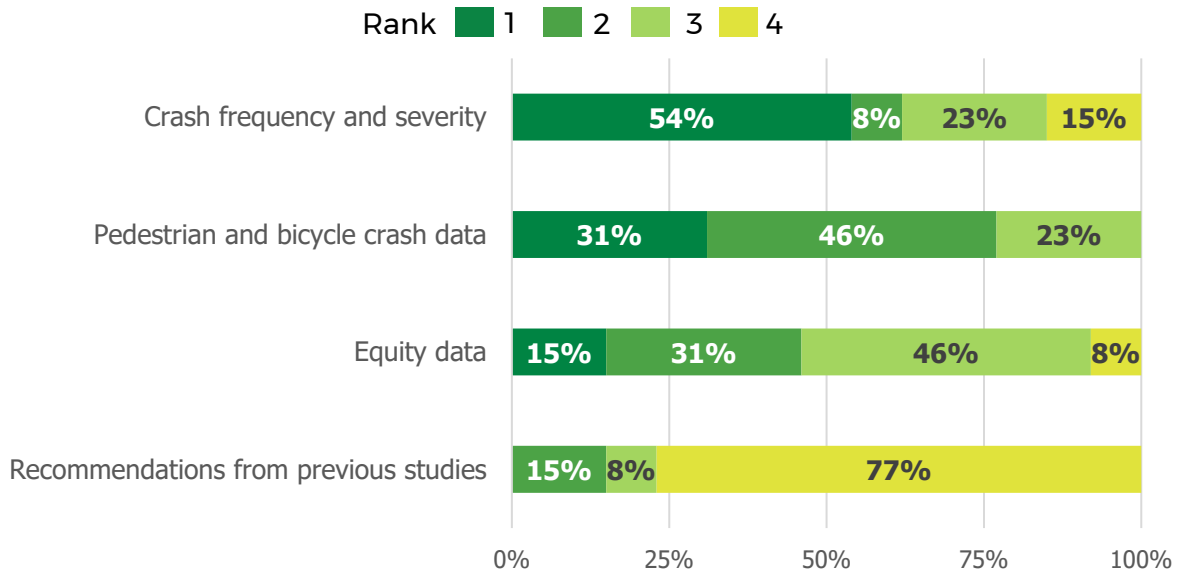
Road Safety Audit & Corridor Selection Overview

Kush Bhagat of Stantec explained what an RSA entails, highlighting the differences between a traditional safety review and an RSA. An RSA adopts a collaborative approach, enabling a more comprehensive road

safety assessment. RSAs result in a report with specific safety improvements tailored to individual corridors based on field observations of the unique conditions identified during the audit.

Maher outlined the four technical analysis criteria that would inform the County's decision-making process for coordinator selection. TAC members were then asked to share their opinion through an in-meeting poll on the priority that each of the four technical analysis criteria should take. As shown in **Figure 3**, the TAC ranked the four priorities in the following order: *Crash Frequency and Severity, Pedestrian and Bicycle Crash Data, Equity Data,* and *Recommendations from Previous Studies*.

Figure 3 - TAC Meeting #1 Poll Results: Corridor Prioritization Criteria Ranking



Maher explained that the project team identified 20 priority corridors one mile in length (total of 20 centerline miles) out of 330 miles of County roadways using the North Jersey Transportation Planning Authority's (NJTPA) Crash Location Screening List and past County studies. This list was further reduced to 10 corridors, as half of the identified priority corridors already have planned or recently completed traffic safety improvement projects:

1. CR 529 - Stelton Road in Piscataway/South Plainfield
2. CR 617 - Ryders Lane in Milltown/East Brunswick
3. CR 673 - Ernston Road in Sayreville/Old Bridge
4. CR 616 - New Brunswick Avenue in Woodbridge/Perth Amboy
5. CR 535 - Washington Road in Sayreville
6. CR 656 - Industrial Ave/Riverside Dr/Smith St in Woodbridge
7. CR 653 - Amboy Avenue in Perth Amboy
8. CR 529 - Plainfield Avenue in Edison
9. CR 603 - Lakeview/Plainfield Avenues in South Plainfield
10. CR 613 - Summerhill Road in Spotswood/East Brunswick

He noted that five of these corridors (based on TAC input and MCOP selection) will advance to the next step of the study, where they will undergo an RSA.

Discussion

TAC members were then provided with an opportunity to ask questions and to share any insights or other considerations about RSA corridor selection:

- A participant asked how the crash frequency and severity were applied to the corridor analysis, to which Maher responded that the top three crash frequency corridors were highlighted for the purposes of the presentation. It was recommended that crash severity also be factored into the analysis.
- A participant asked about the significance of previous studies on the shortlisted corridors, to which the project team explained that identification in previous studies demonstrates a record of concern but that it is a more qualitative criterion that may not be weighted as highly as the other technical analysis factors based on TAC input during this meeting.
- A participant expressed concern about the 1-mile length of the corridors, questioning the effectiveness of countermeasures limited to such short segments. They suggested that the RSAs should consider the broader context, including the origins and destinations of trips along the corridors. The project team explained that conducting RSAs on one-mile segments allows the county to manage the work more efficiently but that recommended interventions could be applied to the broader corridor, e.g., a road diet for a longer segment of the corridor or similar safety treatments at intersections along the corridor. The RSA process is a first step toward concept development. Future phases of roadway reconfiguration could extend beyond the initial one-mile segments depending on the findings and needs identified in the audit.
- A participant noted that within the last three years, there have been three fatalities on Summerhill Road in East Brunswick. They emphasized the relatively high share pedestrian traffic by middle schoolers, high school students, and senior citizens on this corridor, making it particularly important to address the needs of vulnerable roadway users. The project team acknowledged the concerns, explaining that the most complete crash data available is current up to 2021. They clarified that the data analysis focuses on the specific one-mile segment, which means some recent fatal crashes, and fatal crashes occurring outside of the one-mile segment, might not be captured.
- Participants noted Amboy Avenue in Perth Amboy as a priority corridor due to the mix of dense vehicular traffic with high pedestrian and bicyclist activity. The project team affirmed the assessment, noting that it had the highest number of pedestrian and bicycle crashes among all the shortlisted corridors, and was also identified in the equity-priority analysis.
- A participant provided additional insights about New Brunswick Avenue in Perth Amboy, noting a recently adopted Transit Hub Redevelopment Plan and highlighting the importance of the corridor as connecting the community to the Middlesex Greenway.
- A participant raised concerns about Stelton Road, explaining that, although pedestrian crashes may not be highly reported in the data, there is a significant issue with people trying to cross the road. The participant described witnessing pedestrians, including parents with children, struggling to cross Stelton Road safely, often having to run across in a hazardous manner, and emphasized that this situation is a frequent and serious concern. The project team

acknowledged the major barriers to mobility along Stelton Road, and that the low pedestrian and bicycle crash totals might reflect the fact that people recognize the inherent dangers of walking or biking along the road and, therefore, avoid crossing the corridor, especially at unsignalized locations. There is a clear need for pedestrian and bicycle improvements as evidenced by worn footpaths along the corridor, indicating an unmet need for safer pedestrian infrastructure.

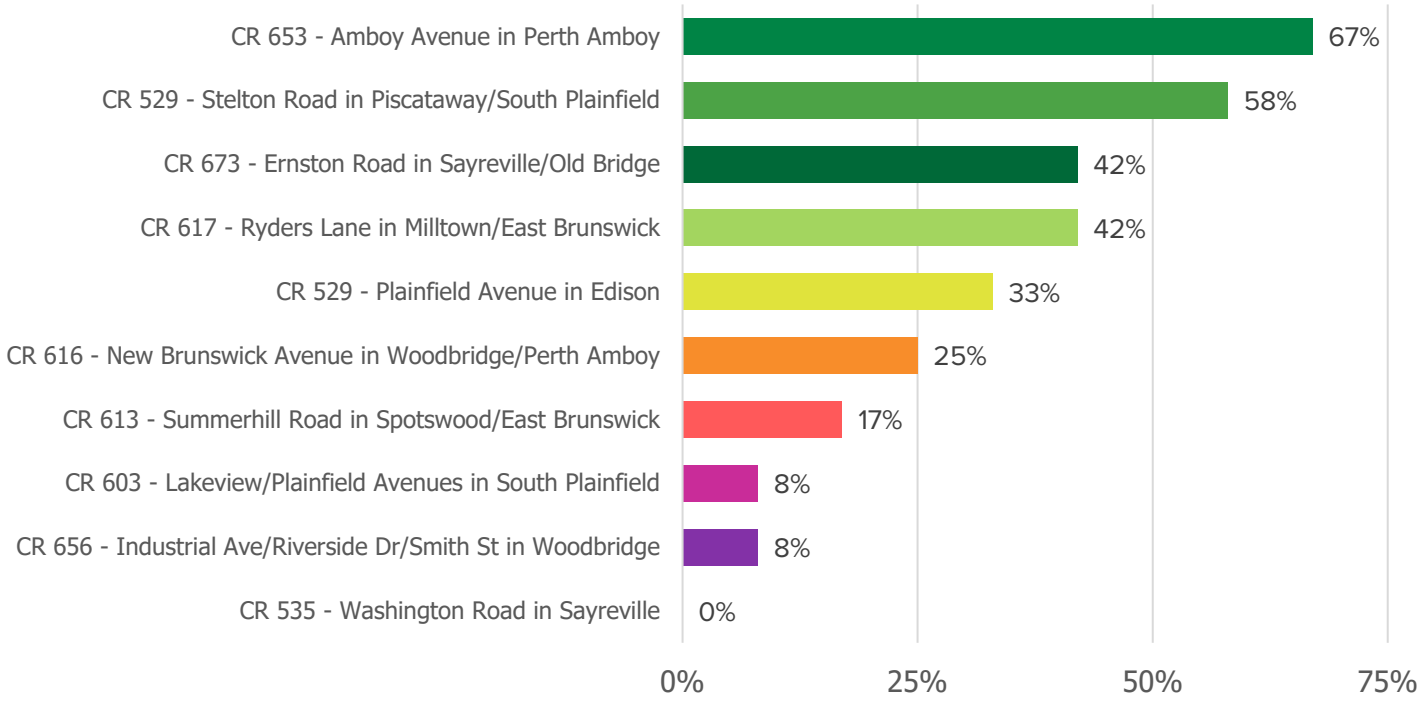
- A participant asked about the presence of bus stops on the selected corridor segments, noting that bus stops induce pedestrian and bicycle use and that most riders need to cross the road at least once a day to access the bus. The project team noted that all but three of the ten shortlisted segments have bus stops.
- A participant asked how bicyclist and pedestrian access issues are addressed within the RSA process, and whether recommendations would seek to improve access, such as pedestrian signals or crosswalks where necessary. Another participant raised concerns about the RSA resulting in the installation of barriers that prevent people from crossing the road in the name of safety, which would lead to decreased mobility for pedestrians and bicyclists. The project team clarified that the RSA process is based on improving safety for the most vulnerable roadway users. The RSA is an in-person observation of conditions and uses a prompt list to help the participants identify various aspects of access, including walkability, American with Disabilities Act (ADA) accessibility, and the quality of bike facilities (and whether they are appropriate for novice or more experienced bike users).
- A participant asked whether a land use analysis is being conducted as part of this study, noting that certain land uses generate more pedestrian and bicycle trips than others. The project team explained that a comprehensive scan of background data would be conducted for the selected corridors, including demographic and environmental justice analysis, traffic volumes, zoning, notable pedestrian trip generators, and development applications and approvals.
- A participant asked how the corridors will be ranked based on the previously discussed analysis criteria, expressing a need for transparency in the selection process. They further suggested a mathematical approach, where other criteria are weighted and normalized to help justify the final selection. The project team acknowledged that the final selection would involve weighting these various components and emphasized that the process is designed to balance multiple factors to address both safety and equity.

  Further discussion emphasized the importance of the pedestrian and bicycle crash analysis to reflect the disproportionate impact of crashes on these vulnerable roadway users, as well as the importance of the equity and environmental justice indicators to acknowledge and address historic disinvestment in these communities.
- A participant asked whether the TAC would have an opportunity to provide input on how the RSAs are conducted. The project team clarified that the TAC's input primarily focuses on selecting the corridors at this time, and that the audits themselves will adhere to the Federal Highway Administration (FHWA) guidelines. That said, TAC members with interest are welcome to participate in the RSAs and/or recommend other local stakeholders that should participate.

- Several participants offered to help connect the project team with public health organizations in the region, suggesting that these groups could provide valuable perspectives during the audits. Another participant mentioned the Healthier Middlesex Consortium, a collaboration between Robert Wood Johnson Hospital, St. Peter's University Hospital, and other public health partners, as a potential resource for expanding the multidisciplinary team.

The meeting concluded with another poll question asking the TAC members to rank their top three corridors to conduct an RSA. As shown in **Figure 4**, the TAC ranked the five priorities in the following order: *Amboy Avenue, Stelton Road, Ernston Road, Ryders Lane,* and *Plainfield Avenue*.

Figure 4 - TAC Meeting #1 Poll Results: Top Corridors to Conduct an RSA



Next Steps

Maher outlined the next steps in the process, including corridor selection, meetings with municipalities, and selecting members for the five RSA teams. The RSAs will be conducted in October, with draft reports following in December. The TAC will reconvene in the winter to discuss observations and safety recommendations from the RSAs.

3.2 Technical Advisory Committee Meeting #2 Summary

Date:	Wednesday, March 5, 2025
Time:	2:00 PM – 3:30 PM
Location:	Virtual via Zoom

TAC Members in Attendance

- Farzana Ahmed, NJDOT
- Elmira Buongiorno, NJ Transit
- Anahita Feltz, Township of Old Bridge
- Christopher Gonda, Keep Middlesex Moving
- Arlene Holt, Keep Middlesex Moving
- Ralph Jasionowski, Milltown Borough
- Andy Kaplan, NJTPA
- Mark Kataryniak, East Brunswick Township
- Leah Katz, NJ Transit
- William Long, NJTPA
- Pascal Medina, Perth Amboy PD
- Sean Meehan, Voorhees Transportation Center
- Michelle Murphy, AARP
- Patty Newton, NJTPA
- Zak Schlichte, Borough of Sayreville
- Brian Tobin, Keep Middlesex Moving
- Tashilee Vazquez, City of Perth Amboy

Middlesex County Staff in Attendance

- Michael Dannemiller, Middlesex County Planning
- Andrew Lappitt, Middlesex County Planning
- Jack Molenaar, Middlesex County Planning
- Astha Negi, Middlesex County
- Denise Nickle, Middlesex County
- Vijayant Rajvanshi, Middlesex County Planning

Project Team in Attendance

- Matthew Maher, Stantec
- Anthony Durante, Michael Baker International
- Courtenay Mercer, Mercer Planning Associates
- Reya Singhi, Mercer Planning Associates

Meeting Purpose

The purpose of this meeting was to review the findings from the Road Safety Audits, draft recommendations, discuss potential funding programs and policies for implementation, and share details on public outreach logistics and possible invitees.

A copy of the meeting PowerPoint can be found at Middlesex RSA_TAC Meeting #2 PPT.pdf

Project Overview

Andrew Lappitt, Project and Program Manager at the Middlesex County Office of Planning (MCOP), kicked off the meeting by welcoming the attendees and thanking them for their participation. He asked participants to introduce themselves and reviewed the meeting agenda, highlighting a change in the County's project contact.

Matthew Maher of Stantec provided a brief overview of the meeting's purpose, which included sharing the safety concerns and findings from the audits conducted in October, along with recommended countermeasures to address those concerns. He also reviewed the background information and outlined the road safety audit process for five selected corridors in Middlesex County. He explained that the project aims to reduce fatal and serious injury crashes along five selected corridors, which are intended to serve as pilot improvements that can be applied to similar corridors across the county.

The five corridors selected for review are mentioned below.

1. Amboy Avenue in Perth Amboy
2. Ernston Road/Washington Road in Sayreville and Old Bridge
3. Plainfield Avenue in Edison
4. Riders Lane in Milltown and East Brunswick
5. Stelton Road in Piscataway and South Plainfield

Maher provided a high-level overview of the five corridors, including their locations, aerial views, and the experiences of driving, walking, or biking along them. He presented the proposed safety improvements for a key intersection in each corridor, showing a video of near-miss incidents at high-traffic, crash-prone locations and details of the proposed improvements for those areas.

Public Outreach Activities

Courtenay Mercer from Mercer Planning Associates provided an overview of the upcoming engagement activities, including five series of Public Information Centers. These sessions will feature informational and activity boards covering the road safety audit (RSA) process, crash statistics, near-miss videos, audit observations, and proposed safety interventions. Interactive activities will allow the public to share their feelings on safety across various transportation modes and vote on proposed interventions using sticky notes.

The events, scheduled for early to mid-April, will engage the general public, advocacy groups, school groups, and audit participants. Materials will be translated into one to three languages based on local

needs, and a promotional kit will be shared with TAC participants to support outreach once the dates and locations are confirmed.

Questions

- During the discussion about Plainfield Avenue, a participant asked if a complete closure at Greenwood Avenue was considered, specifically closing both approaches to and from Plainfield Avenue. The project team clarified that this option was not initially discussed with the township but acknowledged that various options are being considered for Greenwood Avenue, including the possibility of making one or both streets one-way.
- Amboy Avenue
    - A request was made for additional bike infrastructure, such as bike lanes and bike buses. The project team noted that Amboy Avenue is well-suited for bike connectivity improvements, and the city is already working on enhancing bicycle infrastructure, including demonstration projects.
    - There was also a request for pedestrian crossing warning signs.
    - The need for striping at existing bus stops along the corridor was raised, with the team noting that transit improvements for the area, including repositioning bus shelters and improving lighting, are already under consideration.
- A participant suggested adjusting the traffic light timing at the Ernston Road and Bordentown Avenue intersection to improve left turns onto Bordentown towards South Amboy. They also recommended shifting the yellow lines from Pine Tree Drive to the light to reduce issues at the intersection, based on their experience as a driver.

Discussion

Questions: Any recommendations for funding programs to pursue and policies to implement?

- A participant discussed Perth Amboy City's Safe Routes to School grant, which includes improvements near Amboy Avenue and New Brunswick Avenue, but noted that additional programs or funding are not yet lined up. The city is exploring funding options, including a potential shuttle service for high school students using the county's rideshare program. On Route 35, there are plans for road improvements near the high school, though this is separate from the current corridor focus. It also emphasized the importance of leveraging state and local funding programs, such as those for truck traffic, to help fund necessary improvements.

Next Steps

Maher outlined the next steps and ways to stay involved, which include attending and inviting others to the public meetings in late spring. The final TAC meeting will also take place in spring to review the draft final report.

3.3 Technical Advisory Committee Meeting #3 Summary

Date:	Thursday, March 15, 2025
Time:	1:30 PM – 3:00 PM
Location:	Virtual via Zoom

TAC Members in Attendance

- Ahsan Ali, Port Authority of NY & NJ
- Andy Kaplan, NJTPA
- Leah Katz, NJ Transit
- William Long, NJTPA
- Julie Marte, AARP
- Michelle Murphy, AARP
- Patty Newton, NJTPA
- Zak Schlichte, Borough of Sayreville
- Natasha Wilson, Port Authority of NY & NJ

Middlesex County Staff in Attendance

- Michael Dannemiller, Middlesex County Planning
- Jack Molenaar, Middlesex County Planning
- Astha Negi, Middlesex County
- Denise Nickle, Middlesex County

Project Team in Attendance

- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates
- Reya Singhi, Mercer Planning Associates

Meeting Purpose

The purpose of this meeting was to provide an update on the current status of the study, present the results of the public information sessions, and discuss the next steps for both the stakeholders and the County.
A copy of the meeting PowerPoint can be found at Middlesex RSA_TAC Meeting #3 PPT.pdf

Project Overview

Astha Negi, Project Manager at the Middlesex County Office of Planning (MCOP), began the meeting by welcoming the attendees and thanking them for their participation.
Matthew Maher of Stantec provided a brief overview of the meeting agenda and the project background. He explained the project's aim to reduce fatal and serious injury crashes by improving facilities for pedestrians, bicyclists, motorists, and transit riders. The project also focused on measures to reduce vehicle speeds and enhance the safety and attractiveness of transit usage.
He provided a brief overview of the project's progress to date, including the various meetings with local officials and the TAC, the Road Safety Audits, and subsequent reviews of recommendations by different levels of government with jurisdiction along the corridors.

Public Outreach Activities

Courtenay Mercer of Mercer Planning Associates shared the public feedback heard during the Public Information Sessions for each corridor. She provided a brief overview of the sessions, which included both open houses and pop-up events, and summarized the results from each. Courtenay also shared demographic information of participants at each location and highlighted key concerns, suggested improvements, and public perceptions of safety along the corridors.

Next Steps

Maher discussed the short-term and long-term goals for implementation, which broadly include connecting communities, fostering local collaboration, exploring grant opportunities, and expanding the network of safe infrastructure. These goals addressed the next steps for the stakeholders and the County to advance the recommendations from the Road Safety Audits study. He also emphasized the importance of establishing a clear pipeline from recommended short-term and long-term project conceptualization to implementation, along with identifying the most suitable grant programs to support these efforts.

He then provided an overview of recommendations and implementation strategies for each of the corridors for the stakeholders and the County to progress:

Stelton Road

- **Potential Funding Opportunities:** NJDOT's Municipal Aid Program and the Local Transportation Projects Fund
- **Proposed Improvements:** Sidewalk coverage and rehabilitation, installing lighting and high-visibility crosswalks, adding sidewalk buffers, improving signage and pavement striping, and ensuring ADA compliance.
- **Municipal Recommendations:** The Township and Borough could co-sponsor an application to reduce the required local match contribution and increase the chances of securing grant funding.

Plainfield Avenue

- **Potential Funding Opportunities:** NJDOT's Municipal Aid Program, Transit Access program, Bikeway Grant Program, and Local Transportation Projects Fund
- **Proposed Improvements:** Sidewalk coverage and rehabilitation, installing lighting and high-visibility crosswalks, adding sidewalk buffers, improving signage and pavement striping, ensuring ADA compliance, and access management and circulation improvements.

Amboy Avenue

- **Potential Funding Opportunities:** NJTPA Complete Streets Conceptualization Pilot Program
- **Proposed improvements:** Sidewalk reconstruction, curb extensions with rectangular rapid flashing beacons (RRFBs), traffic signal upgrades with retroreflective backplates, bike lanes,

pedestrian-scale lighting enhancements, access management, driveway apron improvements, and updated striping and signage.

Ryders Lane

- **Potential Funding Opportunities:** NJDOT's Municipal Aid Program, Safe Streets for All (SS4A) Implementation Grant, and Local Transportation Projects Fund
- **Proposed Improvements:** Sidewalk coverage and rehabilitation, installing lighting and high-visibility crosswalks, adding sidewalk buffers, improving signage and pavement striping, ensuring ADA compliance, and implementing traffic calming measures and intersection reconfiguration.
- **Municipal Recommendations:** The Township and Borough could co-sponsor an application to reduce the required local match contribution and increase the chances of securing grant funding.

Ernston Road

- **Potential Funding Opportunities:** NJDOT's Safe Routes to School (SRTS) and Bikeways Grant Program
- **Proposed Improvements:** Bike lanes, sidewalk coverage and rehabilitation, installing lighting and high-visibility crosswalks, adding sidewalk buffers, improving signage and pavement striping, and ensuring ADA compliance
- **Municipal Recommendations:** The Township and Borough could co-sponsor an application to reduce the required local match contribution and increase the chances of securing grant funding.

Before opening the meeting to questions and discussion, Maher explained that the study will conclude by the end of June.

Questions

- If not already completed, a participant recommended that school travel counts be conducted before summer break to support the Safe Routes to School (SRTS) applications. Keep Middlesex Moving (KMM) could potentially assist with this. The project team noted that while Automatic Traffic Recorder (ATR) and Turning Movement Count (TMC) data have already been collected, updated counts would certainly strengthen the study.
- Did the municipalities receive the relevant information? The project team noted that the municipalities have been involved throughout the study through participation in the Municipal Partnership and TAC meetings, the RSAs, and the public Information Sessions. In addition, the PowerPoint presentation will be shared with the municipalities following this meeting.
- When is the final report expected to be shared? The project team indicated that the final report will be shared in late summer or early fall 2025.

4 Local Officials Meetings

The County and project team facilitated 10 local official meetings **(Table 1)**, two for each corridor, at key points in the planning process with municipal representatives from each of the selected corridors to gather local knowledge about on-the-ground conditions and community expectations. The first set of meetings occurred after the corridors were selected but prior to the RSA to gather background information and prepare for the RSAs. The second set of local officials meetings occurred after the RSAs to review the results and discuss draft recommendations. Participants varied for each corridor, but generally included the Business Administrator, engineer, planner, police department, public works, community development, and/or a representative from the mayor's office.

Table 1 - Local Officials Meetings Dates and Attendance

Corridor	Local Officials Meeting #1	Local Officials Meeting #2
Amboy Avenue	October 22, 2024 (7 Attendees)	February 13, 2025 (2 Attendees)
Ernston Road	October 2, 2024 (7 Attendees)	February 13, 2025 (5 Attendees)
Plainfield Avenue	October 17, 2024 (3 Attendees)	February 10, 2025 (3 Attendees)
Ryders Lane	October 9, 2024 (7 Attendees)	February 19, 2025 (3 Attendees)
Stelton Road	October 7, 2024 (Piscataway/3 Attendees) October 8, 2024 (S. Plainfield/5 Attendees)	February 10, 2025 (4 Attendees)

Brief synopses of the Local Officials meetings can be found in **Section 5: Public & Stakeholder Input** of the Middlesex Road Safety Audit report. The following pages contain full summaries, along with links to the PowerPoint presentations from each meeting.

4.1 Local Officials Meeting: Pre-RSA

The first set of meetings occurred after the corridors were selected but prior to the RSA, to introduce the local officials to the project's purpose, and goals of the study, gather insights into the selected corridor, and share the RSA logistics plan. A total of six meetings, one for each corridor (except two for Stelton Road), were conducted in this round. Baseline information about the corridor was shared to inform and guide subsequent discussion, where participants were asked to share information about existing traffic studies, roadway projects, development activities, and any other traffic safety observations and concerns about the corridor.

4.1.1 Amboy Avenue Local Officials Meeting #1 Summary

Date: Tuesday, October 22, 2024

Time: 2:00 PM – 3:00 PM

Location: Virtual via Teams

Attendees

- Lawrence (Larry) Cattano, Police Chief, City of Perth Amboy
- Michale E. Greene, Business Administration, City of Perth Amboy
- Lisett Lebron, Mayor's chief of Staff, City of Perth Amboy
- Edward A. Mullen, Fire Chief, City of Perth Amboy
- Matthew Nieves, Public Works, City of Perth Amboy
- Edwin Perez, Public Works, City of Perth Amboy
- Tashi Vasquez, Economic & Community Development, City of Perth Amboy
- Michael Dannemiller, Supervising Engineer, Middlesex County
- Andrew Lappitt, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- William Long, Principal Planner, Subregional Studies, NJTPA
- Peter Kremer, Michael Baker International
- Marjoly DeLeon, Michael Baker International
- Matthew Maher, Stantec
- Reya Singhi, Mercer Planning Associate

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #1 PPT_Amboy Ave.pdf

Meeting Purpose

The purpose of this meeting was to introduce the local officials from the City of Perth Amboy Township to the Middlesex County Road Safety Audits (RSAs) project, gather insights into the selected corridor (Amboy Avenue), and share the logistics plan.

Project Overview

Attendees received an overview of the project purpose and scope, information about the road safety audit process, and an explanation of how the Amboy Avenue (CR 653) corridor was selected. Baseline information about the corridor was shared to inform and guide subsequent discussion.

Discussion

The following is a summary of key points and action items regarding the corridor and RSA planning, based on a discussion between the project team and representatives from the City of Perth Amboy.

To guide the discussion, the project team asked several questions about existing conditions along the RSA corridor and the responses are summarized below.

Question: Are there any existing studies, traffic counts, etc., for this corridor?

- The Master Plan is being developed but is not ready for public sharing. The last Master Plan update was in 2003, and recently, a community meeting was held to discuss the new Master Plan.
- Traffic on Route 440 approaching the Outerbridge is particularly heavy during the summer months. The Outerbridge Crossing Study regarding enhancements or replacements is projected to be completed in 5 years, but the implementation could take up to 15 years, and there are doubts about whether it will ever be realized.
- The City is a recipient of a Safe Routes to School grant, which aims to improve safety for students walking to school, beginning at Amboy Avenue and extending to New Brunswick Avenue.

Question: Are there any land development applications/ approvals or road improvement projects along this segment of the corridor or nearby?

Land Development

- The area along Amboy Avenue near the 440 connector is under review for redevelopment. A bar at the location recently burned down, and the City is now exploring ways to revitalize the site as part of broader redevelopment efforts in the area.

Road Improvement Projects

- Road paving has recently been completed off Amboy Avenue in the Budapest section, specifically on Myrtle Street and Bruck Avenue. However, several other streets, including Leon Avenue, Summit Avenue, Wagner Avenue, and Ashley Avenue, remain in poor condition and need improvement.

Questions: What are your traffic safety observations and concerns about the corridor?

Traffic Flow and Maintenance Issues

- The 440 interchange is noted as the busiest intersection, and one of the suggestions is to change the one-way travel on Amboy Avenue to a two-way route going north.
- There are frequent crashes occurring south of Amboy Avenue, likely due to vehicles approaching too quickly. Potential solutions include adjusting signal timing, improving intersection daylighting, or using flexible delineators to enhance safety.
- People usually park too close to intersections on Amboy Avenue, contributing to visibility and traffic issues.
- Striping and painting on the roads are also a significant concern.
- There are minimal drainage issues, except for the lack of proper curbing north of Amboy Avenue at Grove Street, where ponding has been reported. The stretch is lined with Belgian blocks, which contributes to the problem.

School Access and Pedestrian Safety Concerns

- The intersection at Waltrous Avenue and Amboy Avenue poses significant safety concerns for pedestrians, especially students who cross it on their way to the High School on State Route 35. The sidewalks on both Waltrous Avenue and Pfeiffer Boulevard are notably narrow, and segments are missing, so the students will walk on the road.
- The suspension of courtesy busing for high school students due to budget constraints increased both car and pedestrian traffic, impacting citywide traffic patterns. Only about 100 students living within a 2.5-mile radius are being bussed. This reduction also applies to middle and elementary school students.
    - In response to these changes, discussions are underway about redistricting to potentially establish a new middle school for grades 7 and 8 to address the challenges of increased traffic and improve accessibility for students in the area. Electric scooters and bike usage have surged, particularly among students commuting to school. This increase is primarily due to the affordability and ease of these modes of transport, especially after the schools stopped courtesy bussing.
- The City appoints crossing guards who participate in an educational program to ensure they are well-trained to manage traffic safely.
- The Mayor's Office will coordinate with a representative from the Board of Education to participate in the road safety audit (after school hours), ensuring a thorough assessment of traffic conditions for the students.

RSA Logistics & Participants

The following outlines the schedule and participation details for the audit, including the timing, location, and coordination with local officials:

- The audit is scheduled for Wednesday, October 30, from 1:30 PM to 4:30 PM, to capture the flow of students and traffic conditions after school. The meeting point is Perth Amboy Municipal Court (365 New Brunswick Ave). Participants and the project team confirmed that the date and time are acceptable.
- Participants were requested to provide contact information for potential RSA participants.

Next Steps

- Designate & invite the RSA team (22nd October)
- Conduct RSAs (October)
- Produce draft RSA Reports (December)
- Reconvene in February 2025

Follow up

The project team requested local officials to provide the following information:

- Land development projects and any associated traffic studies within a ¼-mile radius of the corridor.
- Any planned road improvement projects in the area.
- Contact information for potential RSA participants:
    - Must haves:
        - Public Representative (safety task force/committee, advocacy org, neighborhood group, municipal committees – planning, safety, recreation, open space, etc.)
        - At least one municipal rep from each town that can report back to elected officials (can be an elected official and/or staff)
        - Law Enforcement
        - Engineer and/or Planner
    - Desired:
        - Board of Education
        - First Responders (EMS/Fire)
        - DPW
        - Mayor
        - Council members
        - Administrators

4.1.2 Ernston Road Local Officials Meeting #1 Summary

Date:	Wednesday, October 2, 2024
Time:	3:00 PM – 4:00 PM
Location:	Virtual via Teams

Attendees

- Jay Cornell, CME Associates, Engineer, Sayreville Borough
- Anahita Feltz, Business Administrator, Old Bridge Township
- Daniel Plumacker, Chief of Police, Sayreville Borough
- Zach Schlichte, Chief of Staff for the Mayor, Sayreville Borough
- Nicole Shapiro, Dir. of Comm Dev. And Engineer, Old Bridge Township
- Glenn Skarzynski, Business Administrator, Sayreville Borough
- Peter Van den Kooy, Acuity, Planner, Sayreville Borough
- Michael Dannemiller, Supervising Engineer, Middlesex County
- Andrew Lappitt, Middlesex County
- Linda Weber, Planning Director, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- William Long, Principal Planner, Subregional Studies, NJTPA
- Anthony Durante, Michael Baker International
- Matthew Maher, Stantec

- Courtenay Mercer, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #1 PPT_Ernston.pdf

Meeting Purpose

The purpose of this meeting was to introduce the local officials from Old Bridge and Sayreville to the Middlesex County Road Safety Audits (RSAs) project, gather insights into the selected corridor (Ernston Road), and share the logistics plan.

Project Overview

Attendees received an overview of the project purpose and scope, information about the road safety audit process, and an explanation of how the Ernston Road (CR 673) corridor was selected. Baseline information about the corridor was shared to inform and guide subsequent discussion.

Discussion

The following is a summary of key points and action items regarding the corridor and RSA planning, based on a discussion between the project team and representatives from the Townships of Old Bridge and Sayreville.

To guide the discussion, the project team asked several questions about existing conditions along the RSA corridor and the responses are summarized below.

Question: Are there any existing studies, traffic counts, etc., for this corridor?

- Have some traffic studies related to development applications.

Question: Are there any land development applications/ approvals or road improvement projects along this segment of the corridor or nearby?

Land Development

- Land use application with traffic studies in Sayreville available *(in the green section north of the school on the Google map)*
- There are other applications in Sayreville & Old Bridge outside the segment that will trigger traffic on the corridor.
    - Towns agreed to provide projects within ¼ mile, plus new proposals between now and January re: affordable housing.
    - Will look if there are developable parcels in the area in the Affordable Housing Plan
- Immediately south of Washington and Ernston Road is an approved age-restricted affordable housing project on 40 acres.
- Rt 9 and Ernston Road intersection – minimart redevelopment
- Substantial house of worship proposed on Ernston Road (Masjid Sadar & Community Center)

Road Improvement Projects

- Old Bridge has two NJDOT Local Freight Grants that are going out to bid. The projects include the intersection of Perrine Road and Old Water Works Road, and almost all of Old Water Works Road.
- Jake Brown Road between Rt 9 to be extended by the developer to warehouses under construction. It will then be extended from there by the Township to Browns Road, which ultimately connects to Bordentown Ave.
    - This will help divert Sayreville truck traffic away from Ernston Road to get to Route 9
    - An extraordinary amount of traffic on Bordentown Avenue currently impacts the intersection with Ernston Road

Question: What are your traffic safety observations and concerns about the corridor?

- It has been horrific for at least 50 years. It boils down to volume, which will only increase with more development.
- Traffic to ShopRite impacts the corridor.
- There is the High School and the largest recreational facility in town, plus ShopRite all at Ernston Road & Washington – it is the busiest intersection in town.
- The signals have been optimized the best they can. There are driver behaviors that will not be addressed through education or enforcement:
    - People traveling in the wrong lane of traffic to get into the left turn lane (maybe channelized turn lane to avoid the problem)
    - School letting out exacerbates already busy commute
    - Limited shoulders with wide cartway – encourages speeding
    - A road diet with a dual turn lane in the middle would not get volume out of the area fast enough
- The road funnels at Villanova from two lanes to one heading north. People stack trying to make a left onto Villanova, then those stuck behind them make a quick merge into the right lane
    - The proposed house of worship just up the road from this will add to traffic
- Robust Park & Ride on Old Bridge side south along Rt 9
- Sayreville High School
    - "School Drive" from parking lot onto Ernston Road gets heavy traffic (those trying to make left cause more tension at the intersection)
    - High Schoolers do park in Kennedy Park and have to cross Wahington to get to school
    - Most kids are bused or driven by parents

RSA Logistics & Participants

The following outlines the schedule and participation details for the upcoming RSA, including the timing, location, and coordination with local officials:

- The audit is scheduled for Monday, Oct 21st, 8:00 – 11:00 AM (Rain Date: Oct 23), and the meeting point is Sayreville Public Library (1050 Washington Road). Both the participants and the project team confirmed that the date and time are acceptable.

Participants were requested to provide contact information for additional potential RSA attendees.

Next Steps

- Designate & invite the RSA team (end of this week)
- Conduct RSAs (October 21)
- Produce draft RSA Reports (December)
- Reconvene in February 2025

Follow up

The project team requested local officials to provide the following information:

- Land development project information and associated traffic studies within a ¼ mile of the corridor
- Information about road improvement projects - NJDOT Freight Grant Projects and Jake Brown Road extension
- School Transportation Plan (if available)
- Contact information for potential RSA participants:
    - Must haves:
        - Public Representative (safety task force/committee, advocacy org, neighborhood group, PTA/O)
        - At least one municipal rep from each town that can report back to elected officials (can be an elected official and/or staff)
        - Law Enforcement
        - Engineer and/or Planner
        - Board of Education
    - Desired:
        - First Responders (EMS/Fire)
        - DPW
        - Mayor
        - Council members
        - Administrators

4.1.3 Plainfield Avenue Local Officials Meeting #1 Summary

Date:	Thursday, October 17, 2024
Time:	2:00 PM – 3:00 PM

Location: Virtual via Teams

Attendees

- Sonia Alves-Viveiros, Business Administrator, Edison Township
- Hank Bignell, Director of Planning & Engineering, Edison Township
- Mike Winters, Sergeant, Edison Township Police Department
- Michael Dannemiller, Supervising Engineer, Middlesex County
- Andrew Lappitt, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- Anthony Durante, Michael Baker International
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #1 PPT_Plainfield Ave.pdf

Meeting Purpose

The purpose of this meeting was to introduce the local officials from Edison Township to the Middlesex County Road Safety Audits (RSAs) project, gather insights into the selected corridor (Stelton Road), and share the logistics plan.

Project Overview

Attendees received an overview of the project purpose and scope, information about the road safety audit process, and an explanation of how the Plainfield Avenue (CR 529) corridor was selected. Baseline information about the corridor was shared to inform and guide subsequent discussion.

Discussion

The following is a summary of key points and action items regarding the corridor and RSA planning, based on a discussion between the project team and representatives from Edison Township. To guide the discussion, the project team asked several questions about existing conditions along the RSA corridor, and the responses are summarized below.

Question: Are there any existing studies, traffic counts, etc., for this corridor?

- H. Bignell will look to see what they have and ask the Traffic Division

Question: Are there any land development applications/ approvals or road improvement projects along this segment of the corridor or nearby?

Land Development

- Recently updated Master Plan called for upgrading land uses and rehabilitating this area
- The train station is underused
- This initiative/roadway improvements will support the town's efforts
- A new bakery at the corner of Rt 27 & Plainfield

- New building part of Festival Plaza
- Burger King approved to redo the drive-thru
- On the northern end, there is interest in redeveloping near the train station
- Past railroad tracks – approval for a QuickChek, Rock Climbing Gym, converting a building into a Banquet Facility
- Sports facility being built next to the ballfield
- Interest in a small warehouse at Plainfield and Brunswick Ave (no application)
- Mosque approved closer to Rt 1
- Hank will look into traffic studies related to land development applications/approvals

Road Improvement Projects

- Recently installed new sidewalks along Kilmer Road.
- Considering a bike lane on Central Ave, but it would require eliminating one side of parking.

Question: What are your traffic safety observations and concerns about the corridor?

- Limited access for pedestrians and a high-traffic corridor, especially during rush hour.
- Poorly maintained catch basins
- Flow of traffic – it backs up – maybe adjust the timing of the lights.
- Increase in traffic because of the increase in deliveries (i.e., Amazon).
- Festival Plaza is so busy on the weekend, it backs up on Plainfield to get into the parking lot.
- Festival Plaza seeking approval from NJDOT and is willing to pay for a crosswalk with a traffic light at the entrance across from Schuyler Dr.
- Made some modifications to Greenwood Ave intersection in recent years (right turn only) – still some crashes, but a decrease. Plainfield Ave is 35 MPH, but cars creep out at 5 MPH, causing T-bone crashes that often result in the crossing car being pushed into the telephone pole.
- Plainfield & Jefferson Blvd has a high frequency of collisions from people running the red light. Unsure of the reason – it does not seem to be sun glare. The signal has smaller heads and no backers.
- Some pedestrian crashes at Rt. 1

RSA Logistics & Participants

The following outlines the schedule and participation details for the upcoming RSA, including the timing, location, and coordination with local officials:

- The audit is scheduled for Thursday, Oct 24, 8:00 AM – 11:30 AM. The participants will meet in the parking lot of the former Stelton School (328 Plainfield Ave)
- Participants were requested to provide contact information for potential RSA attendees.

Next Steps

- Designate & invite the RSA team (end of this week)

- Conduct RSAs (Thursday, Oct 24, 8:00 AM – 11:30 AM)
- Produce draft RSA Reports (December)
- Reconvene in February 2025

Follow up

The project team requested local officials to provide the following information:

- Any land development project info and associated traffic studies within a ¼ mile of the corridor
- Any information about road improvement projects
- Contact information for potential RSA participants:
    - Must haves:
        - Public Representative (safety task force/committee, advocacy org, neighborhood group, municipal committees – planning, safety, recreation, open space, etc.)
        - At least one municipal rep from each town that can report back to elected officials (can be an elected official and/or staff) – *invitees already confirmed*
        - Law Enforcement – *invitees already confirmed*
        - Engineer and/or Planner – *invitees already confirmed*
    - Desired:
        - Board of Education
        - First Responders (EMS/Fire)
        - DPW
        - Mayor
        - Council members
        - Administrators

4.1.4 Ryders Lane Local Officials Meeting #1 Summary

Date:	Wednesday, October 9, 2024
Time:	9:00 AM – 10:00 AM (Milltown Borough) 2:00 PM – 3:00 PM (East Brunswick Township)
Location:	Virtual via Teams

Attendees

- Joseph Criscuolo, Township Administrator, East Brunswick Township
- Mark Kataryniak, Manager of Engineering Services, East Brunswick Township
- Keith Kipp, Director of Planning & Engineering, East Brunswick Township
- Frederick Carr, Business Administrator, Milltown Borough
- Ralph Jasionowski, CPWM/Recycling Coordinator, Public Works, Milltown Borough
- Christopher Johnson, Chief of Police, Milltown Borough

- Michael McClelland, Municipal Engineer, Milltown Borough (CME Associates)
- Michael Dannemiller, Supervising Engineer, Middlesex County
- Andrew Lappitt, Middlesex County
- Emily Link, Middlesex County
- Anthony Durante, Michael Baker International
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates
- Reya Singhi, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #1 PPT_Ryders Lane.pdf

Meeting Purpose

The purpose of this meeting was to introduce the local officials from East Brunswick Township and Milltown Borough to the Middlesex County Road Safety Audits (RSAs) project, gather insights into the selected corridor (Stelton Road), and share the logistics plan.

Project Overview

Attendees received an overview of the project purpose and scope, information about the road safety audit process, and an explanation of how the Ryders Lane (CR 617) corridor was selected. Baseline information about the corridor was shared to inform and guide subsequent discussion.

Discussion

The following is a summary of key points and action items regarding the corridor and RSA planning, based on a discussion between the project team and representatives from East Brunswick Township and Milltown Borough.

To guide the discussion, the project team asked several questions about existing conditions along the RSA corridor and the responses are summarized below.

Question: Are there any existing studies, traffic counts, etc., for this corridor?

- None in East Brunswick or Millstone

Question: Are there any land development applications/ approvals or road improvement projects along this segment of the corridor or nearby?

Land Development

- There is an approved storage facility at Blueberry Drive and Ryders Lane, which is expected to have a low traffic impact. The Engineer can share the plans. *(East Brunswick)*
- The ACME project, located south of the Turnpike, involves the development of condominiums and residential units in East Mill Plaza. If any updates arise, the municipal engineer will share the details with the project team. *(East Brunswick)*
- None in East Brunswick

Road Improvement Projects

- A traffic signal design is in progress at Heritage Plaza. *(Milltown)*
- The Rt 18 project is expected to last 3 more years, so people are using Ryders Lane more frequently than normal

- Tices Lane was paved last year *(East Brunswick)*

Question: What are your traffic safety observations and concerns about the corridor?

- Drivers not paying attention and speeding are major contributors to crashes in this area.
- The speed limit South of Ryders Lane in East Brunswick is 50 mph, but it reduces to 45 mph near Heritage Plaza in Milltown. However, there is no speed limit sign between these points, leaving drivers uncertain about the speed limit as they approach Milltown, which often leads to speeding in the area.
- Flooding of Saw Mill Brook – a culvert goes under Ryders Lane. The County dredged downstream years ago. The flooding impacts houses on Perry Road (back up to the stream and Stelton).
- The crest of the hill heading northbound between Corona & Sullivan Way is a problem from a line-of-site perspective.
- Traversing the railroad crossing is confusing at times for motorists. Had some fatalities with people walking. People walk on the southbound side where there are no sidewalks.
- Maintenance is needed at the intersection where the railroad tracks cross Ryders Lane (location). Several tires have been damaged on the right side of the street in recent weeks. Although this issue is outside the scope of the current study, the County has noted it for further investigation.
- The project team reached out to get crash reports from Arlene Smith (Secretary in Records)
    - Can try reaching out to East Brunswick Police Department, Traffic Safety
        - Lieutenant Wade Gordon, Traffic Safety Section Commander
        - Sergeant Brian Ventura
- The exit at Heritage Plaza, adjacent to Taco Bell, is hazardous because drivers often fail to notice the traffic light on Ryders Lane, resulting in unintentionally running the red light. The light is not visible, leading to confusion and hesitation among drivers. Although a "No Turn on Red" sign is present, it can be easily overlooked. The intersection needs redesigning to improve visibility, signage, and overall safety.

RSA Logistics & Participants

The following outlines the schedule and participation details for the upcoming RSA, including the timing, location, and coordination with local officials:

- The audit is scheduled for Friday, Oct 18 (Rain Date: Oct 19). The meeting location is Wilkin Guttenplan (1200 Tices Ln)
    - Milltown is available
    - Friday and Saturday do not work for East Brunswick because the traffic safety officers work Mon – Thurs
    - The project team will discuss Oct 22 as an alternative with Milltown
- Participants were requested to provide contact information for potential RSA attendees.

Next Steps

- Designate & invite the RSA team (end of this week)
- Conduct RSAs (TBD – need to confirm Oct 22 w/Milltown)
- Produce draft RSA Reports (December)
- Reconvene in February 2025

Follow up

The project team requested local officials to provide the following information:

- Any land development project info and associated traffic studies within a ¼ mile of the corridor
    - Storage facility at Blueberry Drive and Ryders Lane *(Milltown)*
    - East Mill Plaza as available *(Milltown)*
- Any information about road improvement projects
    - Heritage Plaza traffic signal redesign if available *(Milltown)*
- Contact information for potential RSA participants:
    - Must haves:
        - Public Representative (e.g., safety task force/committee, advocacy org, neighborhood group, municipal committees – planning, safety, recreation, open space, etc.)
            - East Brunswick: Traffic Advisory Committee – maybe Bruce Barrett?; Cedar Village Homeowners Association; Courtenay M. to follow up with VTC about possible Cook or Rutgers Garden student/staff
            - Milltown: TBD
        - At least one municipal rep from each town that can report back to elected officials (can be an elected official and/or staff)
        - Law Enforcement
        - Engineer and/or Planner
    - Desired:
        - Board of Education
        - First Responders (EMS/Fire)
        - DPW
        - Mayor
        - Council members
        - Administrators

4.1.5 Stelton Road Local Officials Meeting #1 Summary

Date/Time:	Monday, October 7, 2024, 11:30 AM – 12:30 PM (Piscataway) Tuesday, October 8, 2024, 9:00 AM – 10:00 AM (South Plainfield)
Location:	Virtual via Teams

Attendees

- Dawn Corcoran-Gardella, Supervisor of Planning, Piscataway Township
- Glenn Cullen, Administrator & CFO, South Plainfield
- Antonio Grasso, Sergeant and Head of Traffic Safety Unit, South Plainfield Police Department
- Joe Herrera, Supervisor of Engineering, Piscataway Township
- McKinley Mertz, Principal Planner, Heyer Gruel & Associates
- Len Miller, Borough Engineer/Superintendent DPW, South Plainfield
- Peter J. Papa, Chief of Police, South Plainfield Police Department
- Mercer Planning Associates
- Michelle Pilch, Deputy Chief, Support Division, Piscataway Township
- Michael Dannemiller, Supervising Engineer, Middlesex County
- Andrew Lappitt, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- William Long, Principal Planner, Subregional Studies, NJTPA
- Marjoly DeLeon, Michael Baker International
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates
- Kayla Myros,

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #1 PPT_Stelton Road.pdf

Meeting Purpose

The purpose of this meeting was to introduce the local officials from Piscataway Township and South Plainfield Borough to the Middlesex County Road Safety Audits (RSAs) project, gather insights into the selected corridor (Stelton Road), and share the logistics plan.

Project Overview

Attendees received an overview of the project purpose and scope, information about the road safety audit process, and an explanation of how the Stelton Road (CR 529) corridor was selected. Baseline information about the corridor was shared to inform and guide subsequent discussion.

Discussion

The following is a summary of key points and action items regarding the corridor and RSA planning, based on a discussion between the project team and representatives from Piscataway Township and South Plainfield Borough.

To guide the discussion, the project team asked several questions about existing conditions along the RSA corridor, and the responses are summarized below.

Question: Are there any existing studies, traffic counts, etc., for this corridor?

- The project team put in an OPRA request for crash reports. Chief Papa will try to expedite the request. *(South Plainfield)*

- South Plainfield is working with Heyer, Gruel, & Associates (HGA) to prepare a Master Plan for the Borough, including a Circulation Element. Looking to adopt in the Spring, so the findings from this study could be incorporated.

Question: Are there any land development applications/ approvals or road improvement projects along this segment of the corridor or nearby?

Land Development

- Traffic study and proposed road improvements (adding sidewalks, ADA ramps, etc.) for Wawa development at the intersection of Stelton and Washington *(Piscataway)*
- Within the last year, ShopRite opened one of the largest stores in the state in Hadley Commons. Traffic volume counts from two years ago would not reflect the redevelopment at the shopping center. The redevelopment did require new sidewalks. Relevant information may be available in the redevelopment plan/application. *(South Plainfield)*
- There is a proposal for a 1.2 million square foot warehouse center off New Brunswick Ave called Link Logistics. Completion is projected for 2028. *(South Plainfield)*
- New development at New Brunswick Ave and Tyler Place will bring 500+ new residential units, and will likely impact traffic flow on Stelton. *(South Plainfield)*

Road Improvement Projects

- Improvements to Hadley Road and Corporate Way were completed a couple of years ago. *(South Plainfield)*
- Improvements on New World Way were completed about two weeks ago. *(South Plainfield)*
- New traffic signals were installed on New Durham Road. *(South Plainfield)*
- Just north of South Washington and Stelton, there are road projects under construction on Wynans Ave and Cumberland Road to provide a 35' cartway, sidewalks, and ADA curbs. *(Piscataway)*
- Plans for 3 phases of improvements along Old New Brunswick Road from Stelton to Centennial. The last phase will run from N. Randolphville Road to Stelton. *(Piscataway)*
- Middlesex County is supposed to be upgrading the intersection of New Durham and Stelton by the Wawa and Pizza Hut.
- Middlesex County is upgrading the traffic lights at Stelton Road and New Brunswick Avenue.

Question: What are your traffic safety observations and concerns about the corridor?

- Poor lighting and drainage are ongoing concerns
- A lot of sections are missing sidewalks – pedestrians are using goat paths. It is very unsafe. The road could use more crosswalks and sidewalks.
    - Shoppers/employees walking to shopping areas.

- Unhoused population living under the awning at Gianni's (slated for redevelopment), and area between Motel 6 and Lowe's.

- Pedestrians often cross mid-block and wait in the median, particularly near the hotels where people cross to the fast-food restaurants. There is a right-hand turn lane that cuts off the pedestrian crossing, so people are left standing in the middle of the intersection.
- New developments will likely cause additional traffic around Exit 5. It is already a very busy intersection that causes traffic to back up on I-287.
- There is not a good pedestrian crossing at Hadley Road. It is difficult for cars too, who get hung up on the median making the left.
- This project team noted that the area has the highest frequency of crashes compared to the other corridors in the project. South Plainfield Police Chief Papa confirmed there were many crashes - roughly 240 crashes from 2022 to 2024. It probably correlates to the sheer volume of traffic on the roadway.
- Participants suggested extending the study area to local roads by a few hundred feet.
- At the Stelton Road and I-287 Off-Ramp, there are a lot of rear-end and side-swipe crashes.
- Stelton & New Brunswick Avenue
    - There are many left-turn collisions coming from Piscataway, making the left onto New Brunswick Ave, and rear-end, making the right from New Brunswick onto Stelton.
    - There is not a median preventing people from attempting left turns across multiple lanes out of the strip mall in Piscataway.
    - The intersection has many awkward and lengthy pedestrian crossings.
    - The right turns onto New Brunswick Ave cause relatively minor collisions but the left turns cause more serious collisions.
- There is a drainage issue between Corporate Way and Centennial Ave, however this is south of the study limits.

RSA Logistics & Participants

The following outlines the confirmed schedule and participation details for the upcoming RSA, including the timing, location, and coordination with local officials:

- The audit is scheduled for Wednesday, Oct 16, 8:00AM – 11:00AM (Rain Date: Oct 17). The meeting location is Holiday Inn (4701 Stelton Rd, South Plainfield)
    - *South Plainfield staff has a conflict and requested that the meeting start 30 minutes earlier*
- Participants were requested to provide contact information for potential RSA attendees.

Next Steps

- Designate & invite the RSA team (end of this week)

- Conduct RSAs (**Oct 16, 7:30 AM to 10:30 AM; Oct 17 Rain Date**)
- Produce draft RSA Reports (December)
- Reconvene in February 2025

Follow up

The project team requested local officials to provide the following information:

- South Plainfield Police Chief Papa will ask to expedite the crash report OPRA request
- Any land development project information and associated traffic studies within a ¼ mile of the corridor
    - Wawa at Stelton and Washington *(Piscataway)*
    - Hadley Commons/Shoprite *(South Plainfield)*
    - Link Logistics warehouse project *(South Plainfield)*
    - 500+-unit residential project at New Brunswick Ave & Tyler Place *(South Plainfield)*
- Any information about road improvement projects
    - Planned improvements for Old New Brunswick Road, particularly Phase 3 from N. Randolphville Road to Stelton *(Piscataway)*
    - Road projects under construction on Wynans Ave and Cumberland Road *(Piscataway)*
- Contact information for potential RSA participants:
    - Must haves:
        - Public Representative (safety task force/committee, advocacy org, neighborhood group, municipal committees – planning, safety, recreation, open space, etc.)
        - At least one municipal rep from each town that can report back to elected officials (can be an elected official and/or staff)
        - Law Enforcement
        - Engineer and/or Planner
    - Desired:
        - Board of Education
        - First Responders (EMS/Fire)
        - DPW
        - Mayor
        - Council members
        - Administrators

4.2 Local Officials Meetings: Post-RSA

The purpose of the second round of local officials meetings was to review the results of the RSA and recommended safety improvements for all corridors and to discuss logistics for the Public Information Session. A total of five meetings, one for each corridor, were conducted in this round.

4.2.1 Amboy Avenue Local Officials Meeting #2 Summary

Date:	Thursday, February 13, 2025
Time:	10:00AM
Location:	Virtual via Teams

Attendees

- Lisett Lebron, Mayor's chief of Staff, City of Perth Amboy *(AI Notetaker)*
- Patrick Medina, Officer, Perth Amboy Police Department
- Tashi Vasquez, Economic & Community Development, City of Perth Amboy
- Andrew Lappitt, Middlesex County
- William Long, Principal Planner, Subregional Studies, NJTPA
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #2 PPT_Amboy Ave.pdf

Purpose

The purpose of this meeting was to review the results of the Road Safety Audit (RSA) and recommended safety improvements for Amboy Avenue (CR 653), as well as discuss logistics for the Public Information Session.

Discussion

Recommendations

- Generally positive response to recommendations.
- Concern about narrowing the access to/from Rt 440 as the area already sees a lot of traffic that backs up (especially in summer). People use every lane and block intersections. Have to put officers there to direct traffic sometimes. The concern was noted, which led to the removal of this recommendation from the final report.
- May get pushback from the reduction of parking. The Circulation Plan update recommended bike lanes, which was not received well (particularly if it takes away parking). Businesses already have loading zone/parking issues.
    - 2 loading zones - both on the side streets and people park there illegally
- What would connect to a potential bike lane on Amboy Ave? There are no other bike lanes in Perth Amboy.
- The Police Department is trying to educate youth on scooters and bikes.
- In response to the discussion, the County retained the recommendations for on-street bike facilities and daylighting with the caveat that further study is needed.

Outreach

- A pop-up at the Easter Egg Hunt is preferred (Saturday, April 19th/April 26th rain date)
- Back-up option is to partner with an organization in the neighborhood – YMCA, Jewish Renaissance Foundation
- Copy Lisette Libron in email about the Easter Egg Hunt

Next Steps

- Follow-up email and TAC invite to T. Vasquez, L. Lebron, and Officer Medina

4.2.2 Ernston Road Local Officials Meeting #2 Summary

Date:	Thursday, February 13, 2025
Time:	2:00 PM – 3:00 PM
Location:	Virtual via Teams

Attendees

- Jay Cornell, CME Associates, Engineer, Sayreville Borough
- Zach Schlichte, Chief of Staff for the Mayor, Sayreville Borough
- Nicole Shapiro, Dir. of Comm Dev. And Engineer, Old Bridge Township
- Glenn Skarzynski, Business Administrator, Sayreville Borough
- Peter Van den Kooy, Acuity, Planner, Sayreville Borough
- Andrew Lappitt, Middlesex County
- Mike Dannemiller, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- William Long, Principal Planner, Subregional Studies, NJTPA
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #2 PPT_Ernston Rd.pdf

Meeting Purpose

The purpose of this meeting was to review the results of the Road Safety Audit (RSA) and recommended safety improvements for Ernston Road (CR 673), as well as discuss logistics for the Public Information Session.

Discussion

Recommendations

- Generally positive response to recommendations.
- Pinetree Drive – people drive into middle/oncoming left turn lane to make the turn. Would a pedestrian refuge island help?
- Between Villanova & Samsel Elementary – need to protect rear-end collision of cars turning left on Villanova

- There are instances where the ADA ramp warning surface is offset and causes a tripping hazard.

Outreach

- Prefer a pop-up at Sayreville High School. Z. Schlichte is the point person

Next Steps

- Muni meeting follow-up email to meeting attendees & A. Feltz
- Outreach coordination with Z. Schlichte
- TAC meeting invite to N. Shapiro, A. Feltz, & Z. Schlichte

4.2.3 Plainfield Avenue Local Officials Meeting #2 Summary

Date:	Monday, February 10, 2025
Time:	1:00 PM – 2:00 PM
Location:	Virtual via Teams

Attendees

- Catriona Leary, Special Project Assistant, Edison Township
- Brian Piccirillo, Director of Planning & Engineering, Edison Township
- Mike Winters, Sergeant, Edison Township Police Department
- Andrew Lappitt, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #2 PPT_Plainfield Ave.pdf

Meeting Purpose

The purpose of this meeting was to review the results of the Road Safety Audit (RSA) and recommended safety improvements for Plainfield Avenue (CR 529), as well as discuss logistics for the Public Information Session.

Discussion

Recommendations

- Generally positive response to recommendations.
- Greenwood Ave
    - Plowing concern with hardened centerline - ultimately, it is a County plow route, so up to them

- Considering one-way heading away in both directions, which would prevent left turns off Greenwood but not prevent left turns from Plainfield Avenue. This suggestion was ultimately incorporated into the final RSA report.
- There is a development going in at the old Sam Ash. The town asked for a traffic study to be conducted.
    - Perhaps get a plan together before the Sam Ash proposal to see if cost sharing/implementation by the developer is possible.
- Would a flashing pedestrian beacon help? Consultant – need to look back at notes to see why it was not recommended here. It would need to be very conspicuous.
- Curb extensions would reinforce that it is one lane at this intersection.

Outreach

- Request to add Korean and eliminate Spanish translations
- Possible Locations:
    - Thomas Jefferson School will get the biggest group that walks the area
    - Edison Library is another option
- The town is still undecided whether to do a pop-up vs. an open house meeting

Next Steps

- Follow-up email and TAC invite to B. Piccirillo, Sgt. Williams, S. Alves-Viveiros

Follow up

- B. Piccirillo for draft report
- B. Piccirillo & C. Leary for outreach

4.2.4 Ryders Lane Local Officials Meeting #2 Summary

Date:	Wednesday, February 19, 2025
Time:	3:00 PM – 4:00PM
Location:	Virtual via Teams

Attendees

- Mark Kataryniak, Manager of Engineering Services, East Brunswick Township
- Keith Kipp, Director of Planning & Engineering, East Brunswick Township
- Ralph Jasionowski, CPWM/Recycling Coordinator, Public Works, Milltown Borough
- Andrew Lappitt, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- William Long, Principal Planner, Subregional Studies, NJTPA
- Matthew Maher, Stantec
- Reya Singhi, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #2 PPT_Ryders Lane.pdf

Meeting Purpose

The purpose of this meeting was to review the results of the Road Safety Audit (RSA) and recommended safety improvements for Ryders Lane (CR 617), as well as discuss logistics for the Public Information Session.

Discussion

Recommendations

- Generally positive response to recommendations.
- Sidewalk improvements are a high priority for the corridor.
- Redevelopment is underway at the corner of Corona and Brook, including sidewalk improvements.
- Cedar Village remains a signalized intersection, and the Heritage Plaza signal does not impact that. The goal is to ensure the exit does not occur at the signal, as drivers exiting the parking lot are waiting for the red light in the parking lot. Improvements at People's Plaza are necessary, as the queue tends to get long. Implementing a "Do Not Block the Box" measure at Delwood could help manage overflow. This suggestion led to access management modifications, such as median separation and turning prohibitions, in the final RSA report.
- Consider doubling capacity and restriping as a potential solution.

Outreach

- Prefer a traditional Public Information Session, as the area has minimal foot traffic and most schools are about a mile away from the corridor.
- A hybrid open house was considered but not recommended, as open house formats can make it difficult to gather feedback. While a public meeting could be held virtually, the interactive nature of this session makes an in-person format the better option.
- Holding meetings at the Cedar Village condominiums could be a good option since they have a community center and will likely provide valuable input.
- Another possibility is to engage with the community at a local event taking place at Rutgers Garden (very close to Ryder Lane).

Next Steps

- Send a follow-up email to all participants after the municipal meeting.
- Coordinate outreach efforts with J. Berger from East Brunswick and R. Jasionowski until he designates a replacement.
- Invite K. Kipp, M. Kataryniak, and R. Jasionowski to the TAC meeting.

4.2.5 Stelton Road Local Officials Meeting #2 Summary

Date: Monday, February 10, 2025

Time:	3:00 PM – 4:00 PM
Location:	Virtual via Teams

Attendees

- Glenn Cullen, Administrator, South Plainfield Borough
- Joe Herrera, Supervisor of Engineering, Piscataway Township
- Peter J. Papa, Chief of Police, South Plainfield Police Department
- Brian Zielinski, Officer, South Plainfield Police Department
- Andrew Lappitt, Middlesex County
- Andy Kaplan, Manager, Planning for Transportation Technology and Operations, NJTPA
- William Long, Program Manager, NJTPA
- Matthew Maher, Stantec
- Courtenay Mercer, Mercer Planning Associates

Link to meeting PowerPoint: Middlesex RSA_Local Officials Meeting #2 PPT_Stelton Rd.pdf

Purpose

The purpose of this meeting was to review the results of the Road Safety Audit (RSA) and recommended safety improvements for Stelton Road (CR 529), as well as discuss logistics for the Public Information Session.

Discussion

Recommendations

- Generally positive response to recommendations.

Hadley Center

- Concern about the traffic impacts of removing the slip lanes, to which the project team responded that an engineering study is needed for this intersection. Is it possible to install ramps instead of slip lanes?

Centennial Avenue (Piscataway)

- Concern about removing the slip lane because of the traffic volume, which led to the removal of this recommendation from the final RSA report.

New Brunswick Avenue

- Expecting an increase in traffic from new residential and warehouses, which should be considered for traffic signals phasing changes.
- When you do the capacity analysis – can you increase the truck count based on development expectations?

Outreach

- Paula Cozzarelli, Assistant Business Administrator

Next Steps

- Either a pop-up or an open house at Eisenhower Elementary School is fine
- Follow up with Assistant Business Administrator, P. Cozzarelli

Follow up

- Invite J. Herrera and G. Cullen to the TAC meeting

5 Public Information Sessions

Public Information Sessions facilitated connections between the Middlesex County RSA team and the community. The sessions also provided an opportunity for community members to learn about local resources to address roadway safety concerns and connect with their local agencies, such as the Police Department, municipal representatives, and County Officials, as well as regional resources like the North Jersey Transportation Planning Authority (NJTPA), the Keep Middlesex Moving (KMM), and the New Jersey Department of Highway Traffic Safety (NJDHTS). Events were held for each of the five corridors throughout April 2025, featuring project information and activities that invited participants to share their travel experiences and respond to the RSA study recommendations. The feedback and input collected from the Public Information Sessions informed the draft recommendations.

The Public Information Sessions were coordinated as either:

- An "open house" style workshop that enables participants to drop in at a convenient time for them over a two-hour period. The timing was selected based on the corridor context and intended audience, considering typical work hours, school schedules, and community routines to maximize attendance.
- A "pop-up" engagement kiosk where the project team sets up information tabling for the public to learn and provide feedback about the RSAs at an existing public event.

During the Public Information Sessions, project information was presented on information boards, accompanied by interactive activities that allowed participants to share feedback through "democracy" stickers and/or post-it notes for voting and providing comments. The presentation boards and materials were translated into the top two to three prominent non-English languages spoken in the community.

Figure 5 -Public Information Session Locations & Dates (in chronological order)



STELTON ROAD
Eisenhower Elementary School
April 8, 2025



RYDERS LANE
Cedar Village Clubhouse
April 10, 2025



AMBOY AVENUE
Albert G. Waters Stadium
April 19, 2025



PLAINFIELD AVENUE
Edison Public Library
April 24, 2025



ERNSTON ROAD
Sayreville Public Library
April 26, 2025

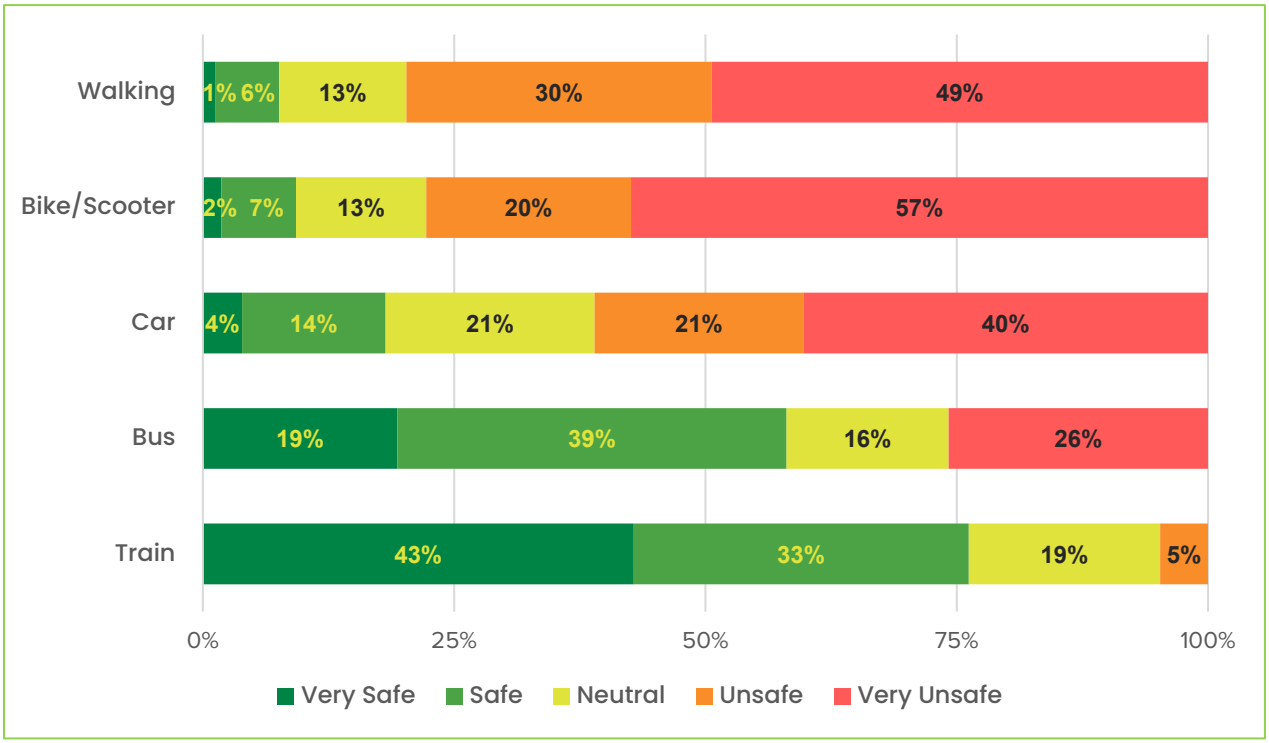
5.1 What We Heard

The outreach highlights below explore the overall, aggregated results from all corridors, followed by more detailed results and exhibits for each corridor.

Figure 6. When asked how safe they feel using different modes of travel, participants overwhelmingly felt unsafe walking, biking, and driving along the five corridors.

Figure 6 - Public Information Sessions (All Corridors):

Perception of Safety by Travel Mode



Participants were also asked to share their safety concerns about the corridors, which were coded into themes and generally fall into two categories – roadway design and road user behaviors (**Figures 7 and 8**). The majority of responses (56 percent) related to design, with the top concerns being *inadequate pedestrian accommodations* and *dangerous or confusing intersections*. Representing 44 percent of all responses, the top behavior concerns include *too much traffic*, *illegal maneuvers*, and *speeding vehicles*.

Figure 7 - Public Information Sessions (All Corridors):

Corridor Safety Concerns - Design

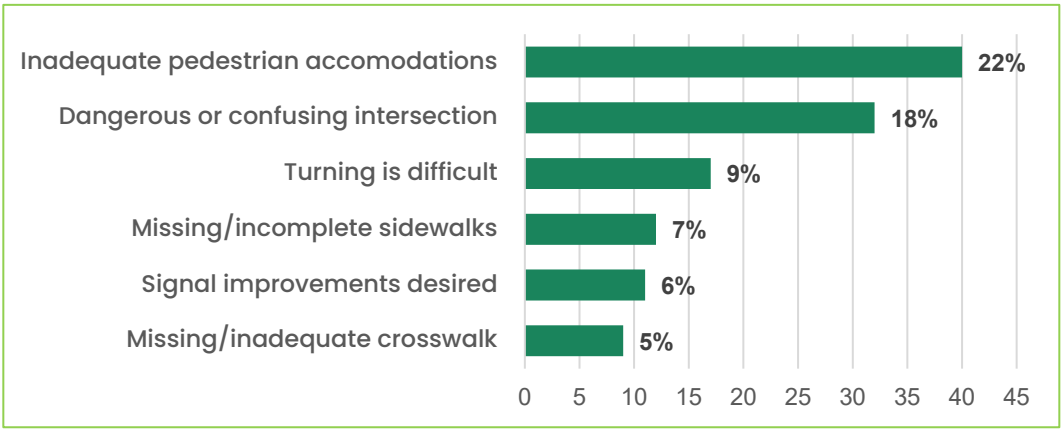
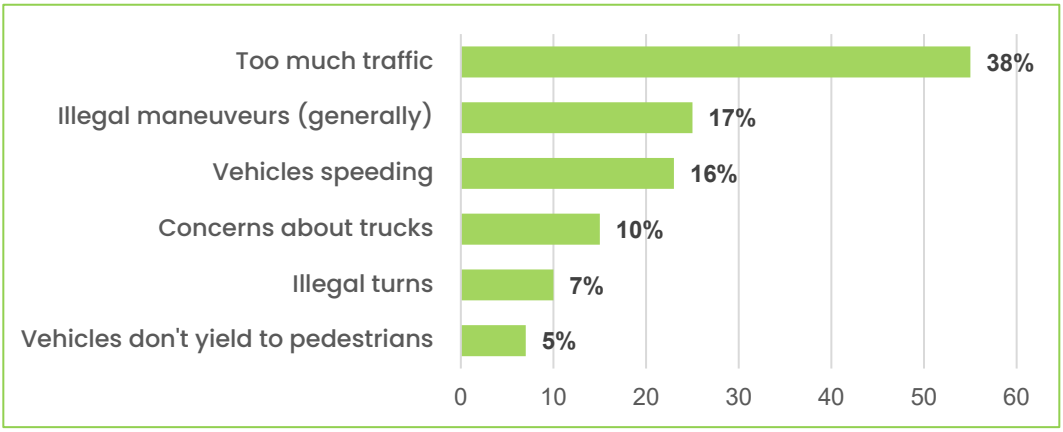


Figure 8 - Public Information Sessions (All Corridors):

Corridor Safety Concerns - Behaviors



** Note that to simplify the chart outputs, responses below 5 percent were excluded from the charts but still included in the calculation totals.*

5.2.1 Amboy Avenue Public Information Session

The Amboy Avenue Public Information Session was conducted as a pop-up at the Annual Easter Egg Hunt at Albert G. Waters Stadium in Perth Amboy. Materials for the pop-up were presented in English and Spanish. Approximately 50 people participated in the pop-up - most were adults and a few teens, and most were Latino.





Figure 9 – Amboy Avenue Public Information Session:

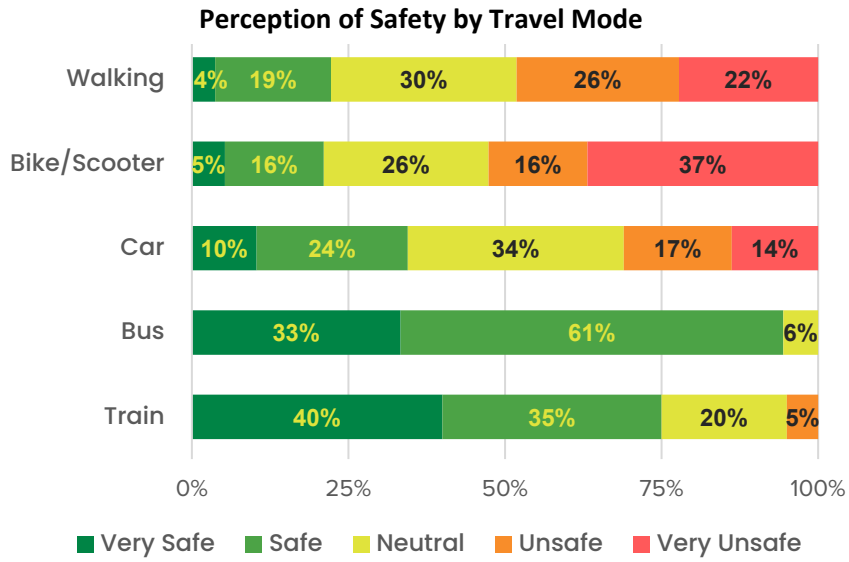


Figure 9. When asked how safe they feel using different modes of travel, participants generally felt safe on a bus or train, neutral about driving or riding in a car, but unsafe walking and biking along Amboy Avenue.

Figure 10 - Amboy Avenue Public Information Session: Corridor Improvement Priorities

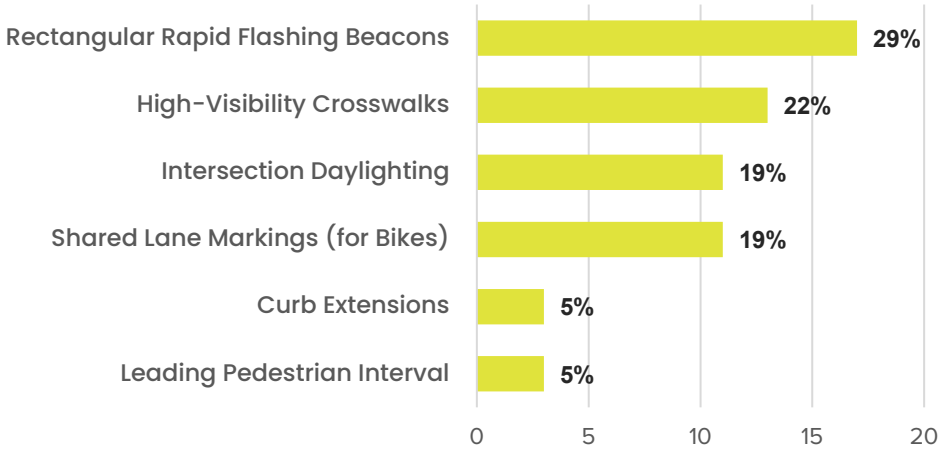
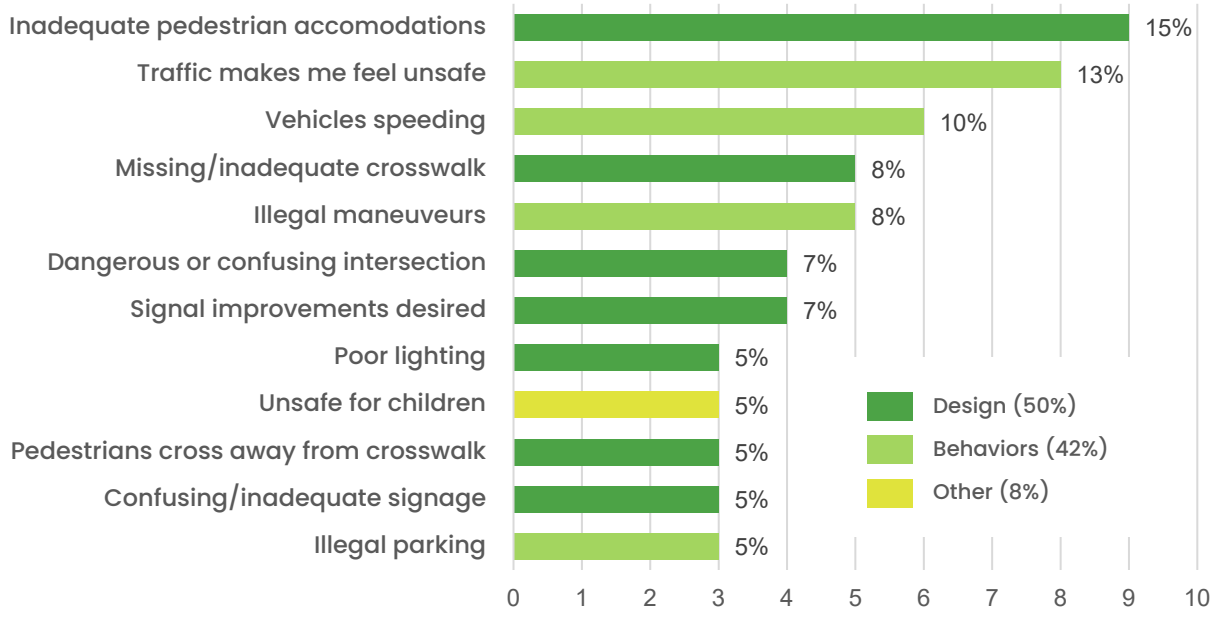


Figure 10. Participants were shown the top safety improvement recommendations for the Amboy Avenue corridor and asked to select their top two priorities. Rectangular *Rapid Flashing Beacons (RFFBs)* and *High-Visibility Crosswalks* were the top choices, followed closely by Intersection Daylighting and Shared Lane Markings (for bikes).

Figure 11 - Amboy Avenue Public Information Session: Corridor Safety Concerns



Participants were also asked to share their safety concerns about the Amboy Avenue corridor, which were coded into themes and generally fall into two categories – roadway design and road user behaviors **(Figure 11)**. The majority of responses (50 percent) related to design, with the top concern being *inadequate pedestrian accommodations*. Representing 42 percent of all responses, the top behavior concerns include *traffic making people feel unsafe* and *speeding vehicles*.

** Note that to simplify the chart outputs, responses below 3 percent were excluded from the charts but still included in the calculation totals.*

The above chart codes and quantifies the comments related to a map of the corridor, which are presented in full on the next few pages. **(Table 2 and Figure 12)**

Table 2 - Amboy Avenue Public Information Session: Map & General Comments

Location (sticky dot #)	Location Description	Community Feedback
29	Amboy Avenue over Route 440	There aren't sidewalks (along the bridge)
29	Amboy Avenue over Route 440	No crosswalks, No crossing guards for children
29	Amboy Avenue over Route 440	A lot of cars, bad lighting, no crosswalks
29	Amboy Avenue over Route 440	It should be an overpass to get onto the highway instead of turning left
29	Amboy Avenue over Route 440	Pretty unsafe for pedestrians
29	Amboy Avenue over Route 440	Cars speed; cars violate traffic laws
29	Amboy Avenue over Route 440	Cars speed a lot, bad intersection timing
29	Amboy Avenue over Route 440	Crossing signs
37	Amboy Avenue and Keene Street	Regulate corner
31	Amboy Avenue midblock by the cemetery	Unsafe to cross the street (heavy traffic)
35	Amboy Avenue and Bruck Avenue	Heavy traffic for a pedestrian
36	Amboy Avenue between Naville and Lawrie Streets	People cross anywhere, Speed a lot

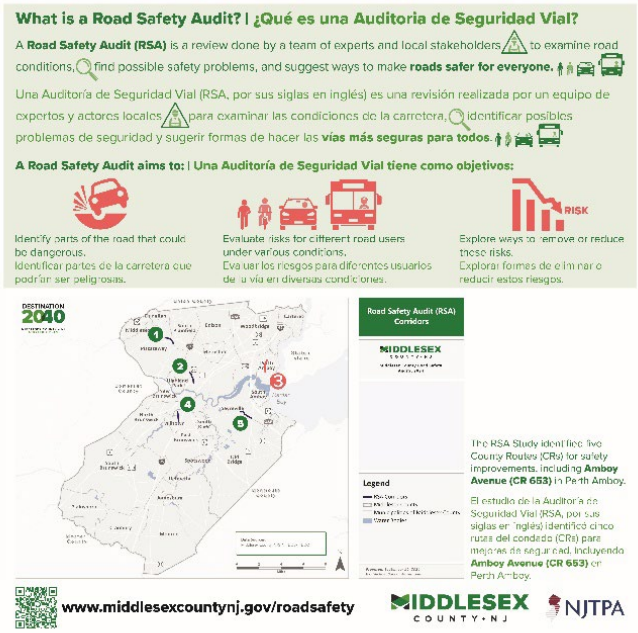
Figure 12 - Amboy Avenue Public Information Session: Corridor Safety Concerns Map Activity

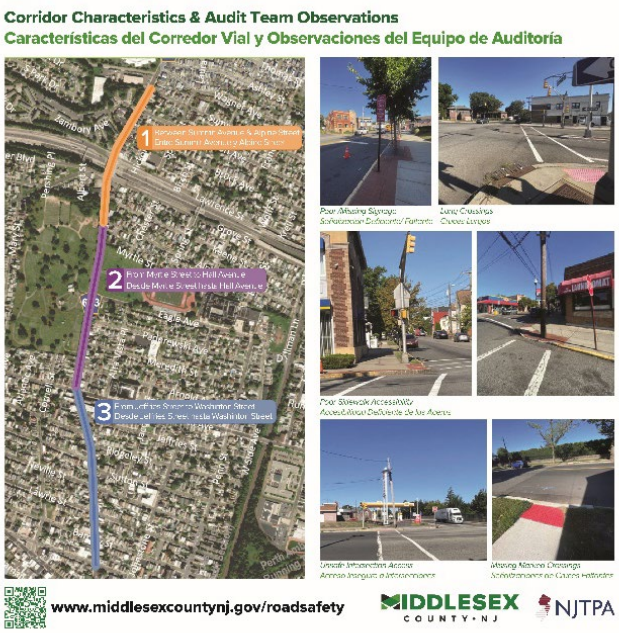


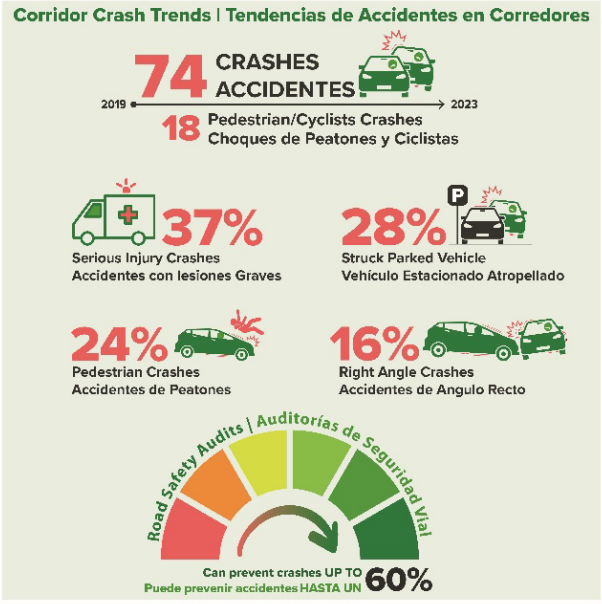
Location (sticky dot #)	Location Description	Community Feedback
39	Amboy Avenue and Barclay Street	Traffic lights instead of a stop sign
40	Amboy Avenue and Myrtle Street	Light
41	Amboy Avenue and Pfeiffer Boulevard	A lot of traffic, impatient drivers
42	Amboy Avenue and Hall Avenue	Bike lane
33	Amboy Avenue and Meredith Street	Crossing pedestrians
43	Amboy Avenue and Ridgeley Street	Road elevated and curved, cars blocking the line of sight + cars driving fast
51	Amboy Avenue north of Bruck Avenue	No lights, no people, empty = unsafe
61	Amboy Avenue between Sutton Street and Neville Street	A lot of jaywalking (even when green light for cars)
61	Amboy Avenue between Sutton Street and Neville Street	Signals, lighting, stop signs, traffic
61	Amboy Avenue between Sutton Street and Neville Street	Improve intersection and crosswalks
64	Amboy Avenue near cemeteries	Heavy traffic, enforcing traffic laws
71	Amboy Avenue north of Route 440	Yellow markings at corners for people not to park
81	Hall Avenue	Speed control isn't effective near schools
91	Amboy Avenue and Lawrence Street	Pedestrian signals
92	Amboy Avenue and Lawrie Street	A lot of cars double park, speeding, people cross anywhere
93	Hall Avenue and Alta Vista Place	Signal visibility and stop signs at crossing
General-01		Heavy traffic when kids get out of school
General-02		The cars block the crossing on the road making it difficult/unsafe to cross
General-03		There's an opportunity with schools/education facilities to teach about mobility and transit laws

5.2.1.1 Amboy Avenue Public Information Session Boards

Figure 13 - Amboy Avenue Public Information Session Boards



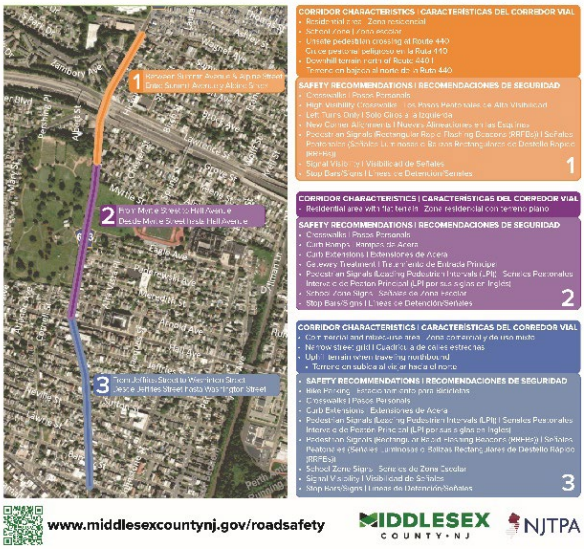


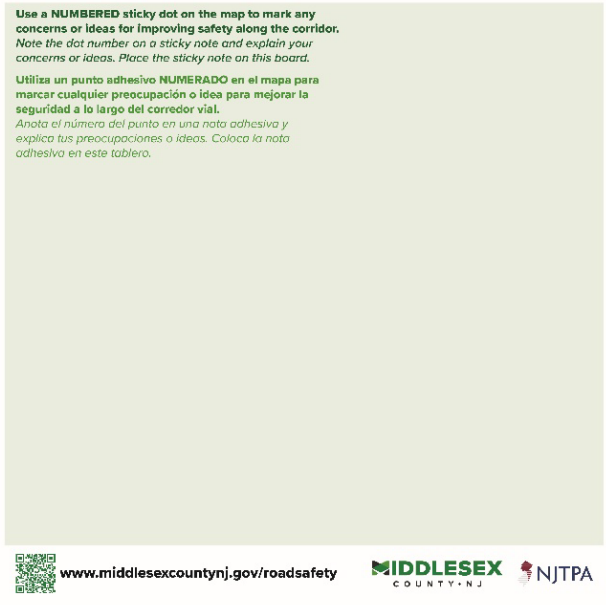





How safe do you feel when using the following types of transportation along the corridor?
¿Qué tan seguro/a te sientes al utilizar los siguientes tipos de transporte a lo largo del corredor vial?
Walking
Caminando
Bike/Scooter
Bicicleta/Escúter
Driving
Conducir
Bus
Autobús
Train
Tren
Very Safe
Muy Seguro
Safe
Seguro
Neutral
Neutral
Unsafe
Inseguro
Very Unsafe
Muy Inseguro


Safety Improvement Recommendations | Recomendaciones para Mejoras de Seguridad
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
High-Visibility Crosswalks
Leading Pedestrian Intervals (LPI)
Rectangular Rapid Flashing Beacons (RRFBs)
Shared Lane Markings
Señalización de Carril Compartido
Curb Extensions
Extensiones de Acera
Intersection Daylighting
Iluminación de Intersección


Corridor Characteristics & Safety Improvement Recommendations
Características del Corredor Vial y Recomendaciones para Mejoras de Seguridad
CORRIDOR CHARACTERISTICS | CARACTERÍSTICAS DEL CORREDOR VIAL
SAFETY RECOMMENDATIONS | RECOMENDACIONES DE SEGURIDAD
1
2
3
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY • NJ
NJTPA


Use a NUMBERED sticky dot on the map to mark any concerns or ideas for improving safety along the corridor.
Note the dot number on a sticky note and explain your concerns or ideas. Place the sticky note on this board.
Utiliza un punto adhesivo NUMERADO en el mapa para marcar cualquier preocupación o idea para mejorar la seguridad a lo largo del corredor vial.
Anota el número del punto en una nota adhesiva y explica tus preocupaciones o ideas. Coloca la nota adhesiva en este tablero.
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY • NJ
NJTPA

5.2.2 Ernston Road Public Information Session

The Ernston Road Public Information Session was held as an open house at the Sayreville Public Library. Materials for the open house were presented in English, Hindi, and Spanish. Approximately 30 people participated in the open house – most were white-presenting and middle-aged or seniors.





Figure 14 - Ernston Road Public Information Session:

Perceptions of Safety by Travel Mode

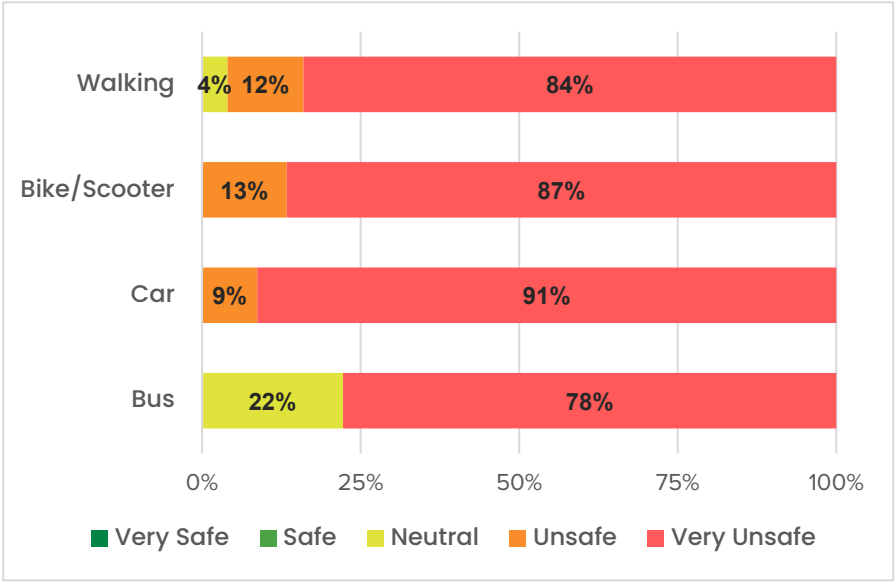


Figure 14. When asked how safe they feel using different modes of travel, participants generally felt unsafe using all modes of transportation along the Ernston Road corridor.

Figure 15 - Ernston Road Public Information Session:

Corridor Improvement Priorities

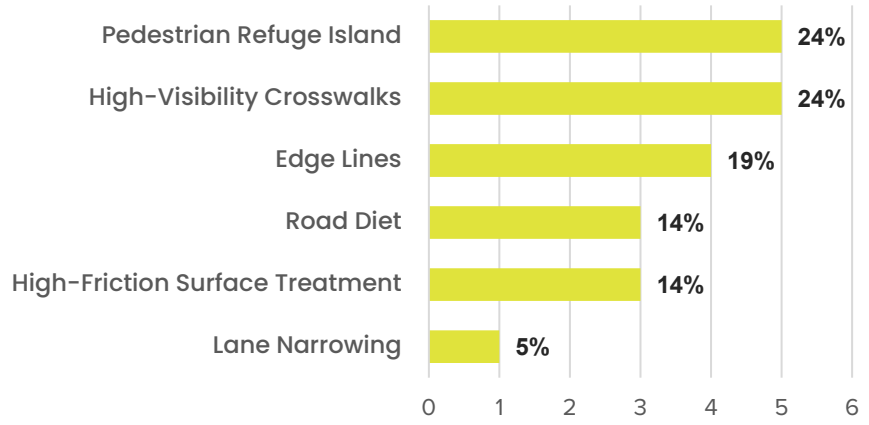
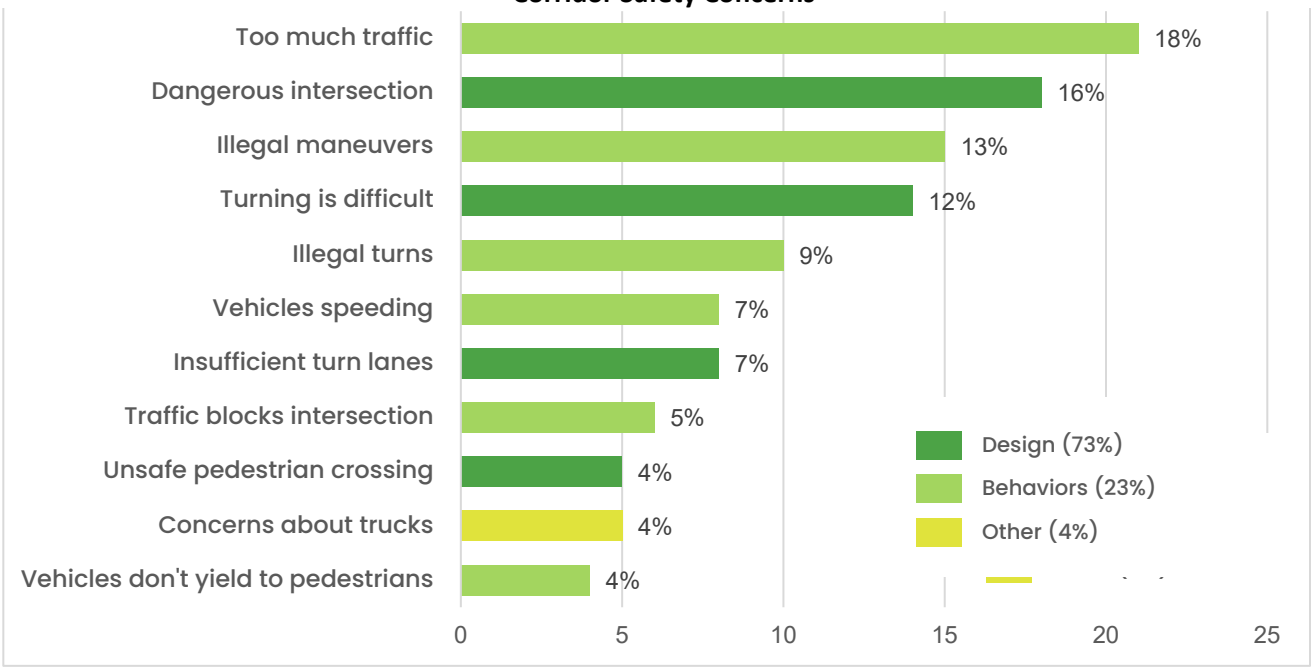


Figure 15. Participants were shown the top safety improvement recommendations for the Ernston Road corridor and asked to select their top two priorities. *Pedestrian Refuge Islands* and *High-Visibility Crosswalks* were the top choices.

Figure 16 - Ernston Road Public Information Session:

Corridor Safety Concerns



Participants were also asked to share their safety concerns about the Ernston Road corridor, which were coded into themes and generally fall into two categories – roadway design and road user behaviors **(Figure 16)**. The majority of responses (56 percent) related to behaviors, with the top concern being *too much traffic* and *illegal maneuvers*. Representing 39 percent of all responses, the top design concerns include *dangerous intersections* and *difficulty turning*.

** Note that to simplify the chart outputs, responses below 3 percent were excluded from the charts but still included in the calculation totals.*

The chart above codes and quantifies the comments related to a map of the corridor, which are presented in full on the next few pages. **(Figure 17 and Table 3)**

Figure 17 - Ernston Road Public Information Session:

Corridor Safety Concerns Map Activity



Table 3 - Ernston Road Public Information Session: Map & General Comments

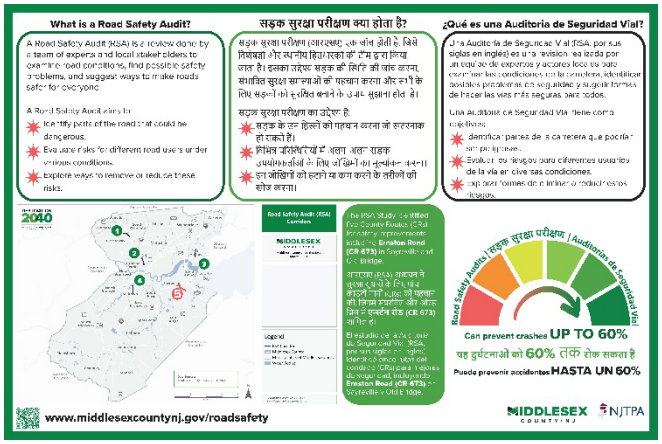
Location (sticky dot #)	Location Description	Community Feedback
45	Ernston Road (proposed mosque development)	Not enough parking for the mosque. How will they get 1,000 people in and out?
45	Ernston Road (proposed mosque development)	Proposed mosque will add to traffic
45	Ernston Road (proposed mosque development)	Concern about mosque parking and traffic
46	Ernston Road and Pinetree Drive	Left turns are hard!
47b	Ernston Road and Villanova Road	After 2 lanes go to 1 lane, people cut off other drivers to make the left hand turn onto Villanova
47a	Ernston Road and Center Avenue	Hard to turn off the side streets onto Ernston Road
47a	Ernston Road and Center Avenue	A lot of accidents turning left off side streets
48	Ernston Road and Shoprite Entrance	People coming out of shopping center don't look for people in the crosswalk
48	Ernston Road and Shoprite Entrance	There isn't a traffic light at the crosswalk. Kids don't look when crossing.
52	Ernston Road and Parkway Place	Hard to turn off the side streets onto Ernston Road
52	Ernston Road and Parkway Place	A lot of accidents turning left off side streets
52	Ernston Road and Parkway Place	Traffic backs up and blocks the intersection
52	Ernston Road and Parkway Place	Need a "Do Not Block the Box" painted
52	Ernston Road and Parkway Place	People don't stop for pedestrians
52	Ernston Road and Parkway Place	Drivers go into opposing traffic to make the left onto Bordentown
52	Ernston Road and Parkway Place	Drivers go into opposing traffic to make the left onto Bordentown
52	Ernston Road and Parkway Place	Family in crash with driver in opposing traffic lane
53	Ernston Road (lefthand turn slip from Bordentown Avenue onto Ernston Road)	Left lane is too short to allow volume that is turning
53	Ernston Road (lefthand turn slip from	Left lane is too short to allow volume that is turning

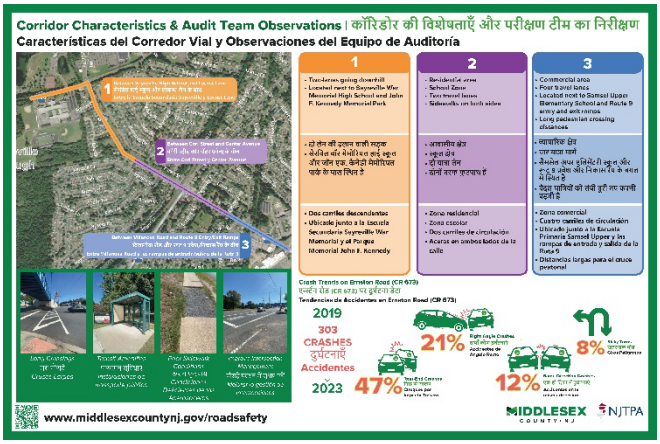
Location (sticky dot #)	Location Description	Community Feedback
	Bordentown Avenue onto Ernston Road)	
53	Ernston Road (left-hand turn slip from Bordentown Avenue onto Ernston Road)	Left lane is too short to allow volume that is turning
54	Ernston Road and Bordentown Avenue	Parking lot of the Mosque will require dangerous crossing of Ernston Road at Bordentown
54	Ernston Road and Bordentown Avenue	Parking lot of the Mosque will require dangerous crossing of Ernston Road at Bordentown
55	Madison Park Neighborhood	People cut through the neighborhood to avoid traffic
56	Ernston Rd (between Center Avenue and Rutgers/Parkway)	When cars are stopped, they hop the curb on right to get around
56	Ernston Rd (between Center Avenue and Rutgers/Parkway)	Bus blocks traffic
57a	Ernston Road and Jeffrey Court	Several truck accidents (high speed)
57b	Ernston Road and Locust Lane	Several truck accidents (high speed)
58a	Ernston Road (lefthand turn slip from Ernston onto Pinetree Drive)	Short-term fix - add bollards to center to stop cutting up to turn 6 ft
58b	Ernston Road and Johnson Lane	Island to block left turn from Johnson onto Ernston. (There is paint now - it needs concrete.)
58b	Ernston Road and Johnson Lane	Speeding and wrong lane at Johnson Lane
58c	Ernston Road and Holly Drive	Speeding and wrong lane at Holly Lane
59	Shell Station at Ernston Road and Washington Road	Too many trucks, a lot of beeping, and road safety
60	Ernston Road and Washington Road	Right-hand turns should not be allowed
60	Ernston Road and Washington Road	Left from Ernston Road to Washington backed up. Delayed green for left?
62	Washington Road and High School driveway(s)	Traffic backed up and blocking the sightline at high school driveway during school drop-off/pick-up

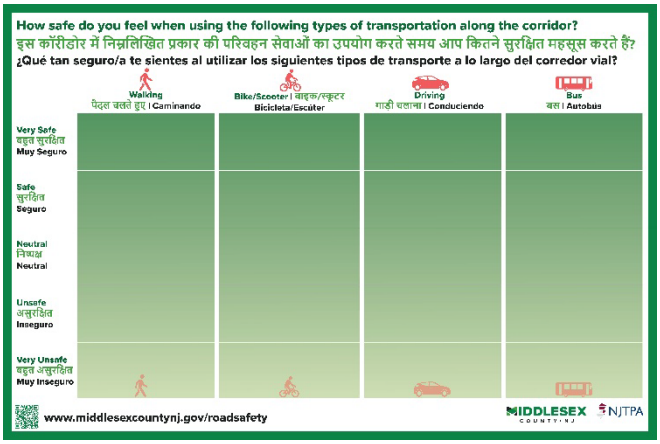
Location (sticky dot #)	Location Description	Community Feedback
63	Ernston Road and Samsel Upper Elementary School Driveway	Traffic light timing during school hours
65	Ernston Road (commercial property driveways)	Island to block left turn to parking. (There is paint now - it needs concrete.)
66	School Drive	Cutting through to avoid Washington and Ernston
67	Ernston Road and Rutgers Road	Hard to turn off the side streets onto Ernston Road
67	Ernston Road and Rutgers Road	Hard to turn off the side streets onto Ernston Road
67	Ernston Road and Rutgers Road	Hard to turn onto Ernston Road from Madison Park
67	Ernston Road and Rutgers Road	Left turns are dangerous, speeding, road rage
67	Ernston Road and Rutgers Road	A lot of accidents turning left off side streets
68	Ernston Road and Route 9 Interchange	Unsignalized intersection is very bad *[dot appears to be placed in the wrong location - this intersection is signalized]*
70	Bordentown Avenue (Blacktie Cleaners driveway)	It's always blocked, road rage!
General-01		A lot of traffic, more at all intersections
General-02		Truck traffic - 50/day near Bordentown Avenue
General-03		Fast driving; Police and fire access to Route 9; many trucks from Rt 9, 18, & 35
General-04		Hitting telephone poles when going around curves
General-05		No shoulder for emergency service
General-06		You take your life in your hands going onto Ernston Road
General-07		Concern that edgelines will make people think they can park on the road
General-08		Talking pedestrian beacons for the visually impaired
General-09		Concern about traffic from new/proposed warehouses
General-10		Road diet with defined turns and barriers where turns are not allowed

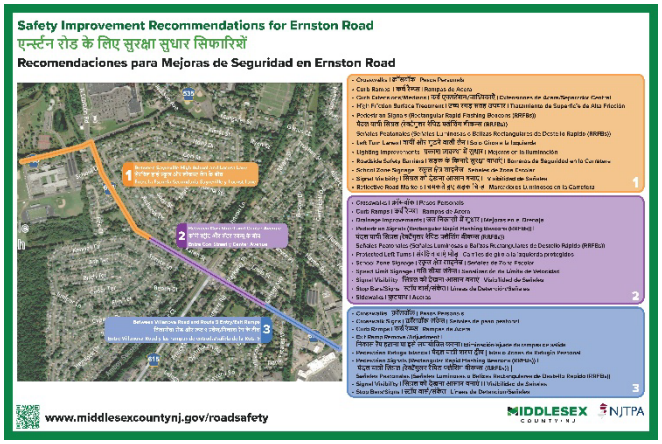
4.2.2.1 Ernston Road Public Information Session Boards

Figure 18 – Ernston Road Public Information Session Boards












Safety Improvement Recommendations for Ernston Road
एर्न्स्टन रोड के लिए सुरक्षा सुधार सिफारिशें | Recomendaciones para Mejoras de Seguridad en Ernston Road
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
कॉरीडोर पर अपनी दो (2) सबसे ज्यादा पसंदीदा सुरक्षा हस्तक्षेपों को वोट देने के लिए स्टिकी डॉट का उपयोग करें।
Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
High-Visibility Crosswalks
उच्च दृश्यता क्रॉसवॉक | Los Pasos Peatonales de Alta Visibilidad
Up to Reduction 40%
High-Friction Surface Treatment (HFST)
उच्च घर्षण सतह उपचार | Tratamiento de Superficie de Alta Fricción (HFST)
Up to Reduction 48%
Edge Lines
धार रेखा | Las Líneas de Borde
Up to Reduction 37%
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY · NJ
NJTPA


Safety Improvement Recommendations for Ernston Road
एर्न्स्टन रोड के लिए सुरक्षा सुधार सिफारिशें | Recomendaciones para Mejoras de Seguridad en Ernston Road
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
कॉरीडोर पर अपनी दो (2) सबसे ज्यादा पसंदीदा सुरक्षा हस्तक्षेपों को वोट देने के लिए स्टिकी डॉट का उपयोग करें।
Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
Lane Narrowing
लेनों को संकरा करना | Reducción de Anchos de Carril
Up to Reduction 40%
Pedestrian Refuge Islands
पैदल यात्रियों के लिए पनाहगाह द्वीप | Islas de Refugio Peatonal
Up to Reduction 56%
Road Diets
रोड आहार | Modificación de Carriles
Up to Reduction 47%
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY · NJ
NJTPA

4.2.3 Plainfield Avenue Public Information Session

The Plainfield Avenue Public Information Session was conducted as an open house at the Public Library in Edison. Materials for the open house were presented in English, Hindi, Chinese, and Spanish. Approximately 11 people participated in the open house – they were of diverse race and ethnicity, and primarily middle-aged adults with two youth.



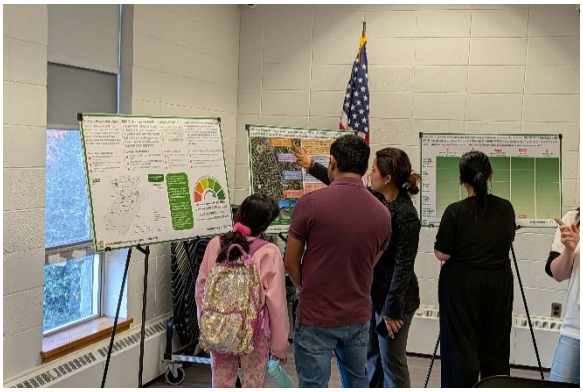


Figure 19 - Plainfield Avenue Public Information Session:

Perceptions of Safety by Travel Mode

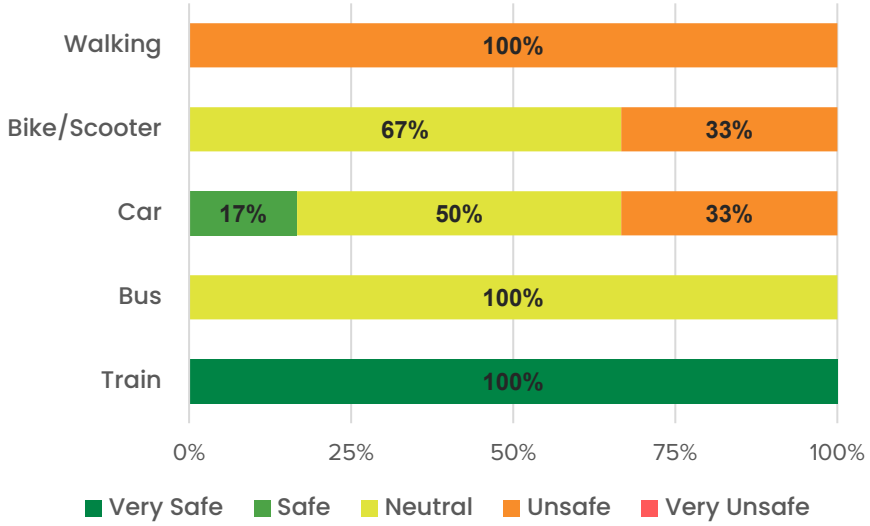


Figure 19. When asked how safe they feel using different modes of travel, participants generally felt unsafe walking, and neutral to unsafe on a bike or driving/riding in a car along the Plainfield Avenue corridor.

Figure 20 - Plainfield Avenue Public Information Session: Corridor Safety Improvements

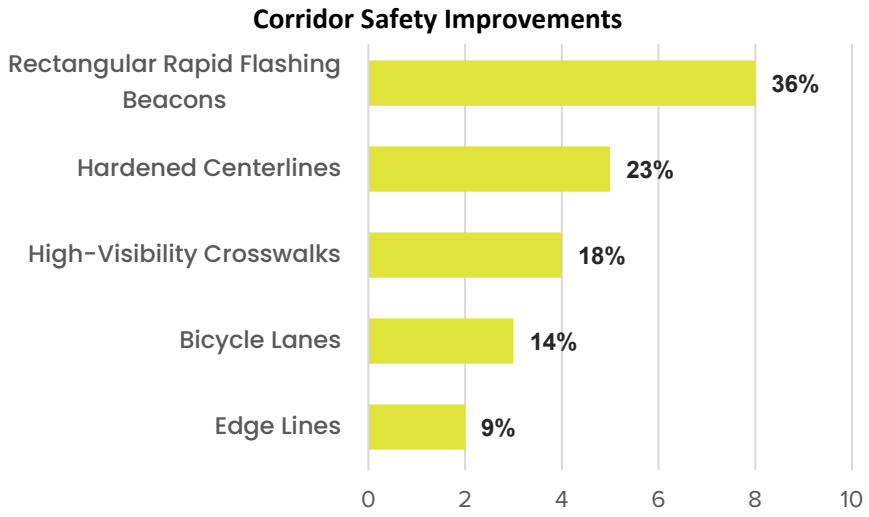


Figure 20. Participants were shown the top safety improvement recommendations for the Plainfield Avenue Road corridor and asked to select their top two priorities. *Rectangular Rapid Flashing Beacons (RFFBs)* and *Hardened Centerlines* were the top choices.

Participants were also asked to share their safety concerns about the Plainfield Avenue corridor. Given the limited participation during the open house, there were not sufficient responses to code and create a chart. The topics that were relayed by participants included: *Pedestrian safety improvements desired (generally)*, *Bicycle safety improvements desired (generally), Missing or incomplete sidewalks, Poor lighting, Need for traffic calming, Dangerous or confusing intersection,* and *Too much traffic makes me feel unsafe.*

The above chart codes and quantifies the comments related to a map of the corridor, which are presented in full below. **(Table 4 and Figure 21)**

Table 4 - Plainfield Avenue Public Information Session: Map & General Comments

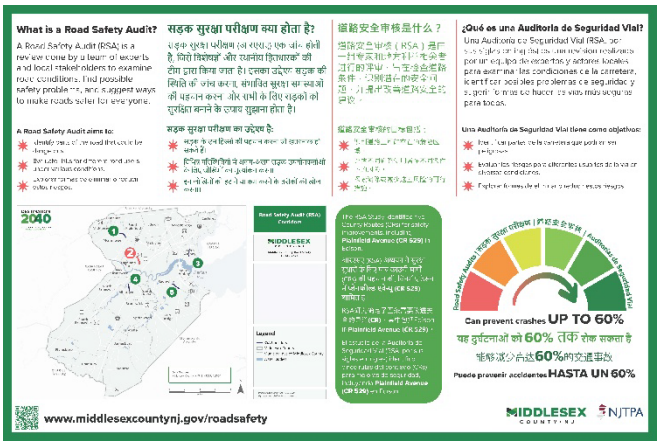
Location (sticky dot #)	Location Description	Community Feedback
34	Corner of Plainfield Avenue and Route 1	Needs more lighting
44	NE Corner of Plainfield Avenue and Route 1	More sidewalks
44	NE Corner of Plainfield Avenue and Route 1	More guiderails
49	Plainfield Avenue and Route 27	No right turn onto Route 27! And put in an obvious place
50	Plainfield Avenue and Jefferson Boulevard	Signal is odd - needs update. All red timing is quick – it needs to be changed.
General-01		Try to avoid area
General-02		Look more closely at traffic from development
General-03		Anything to make it safe for bicyclists/scooters

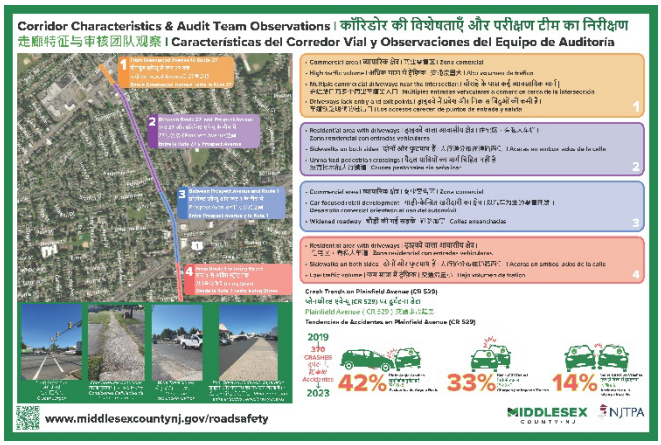
Figure 21 - Plainfield Avenue Public Information Session: Corridor Safety Concerns Map Activity

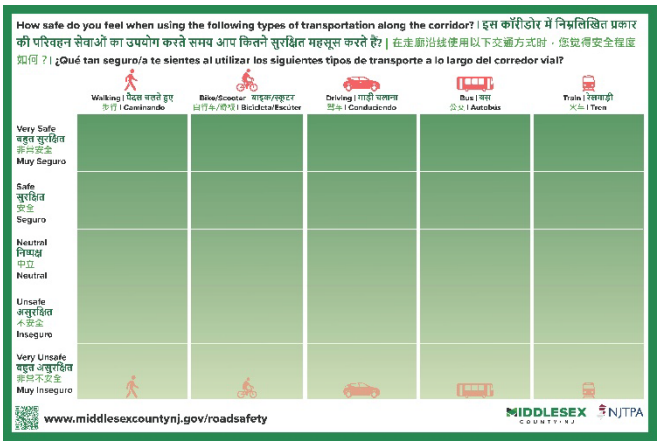


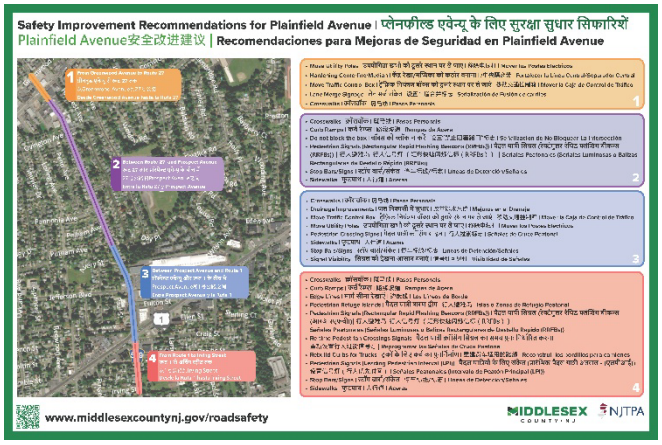
4.2.3.1 Plainfield Avenue Public Information Session Boards

Figure 22 – Plainfield Avenue Public Information Session Boards

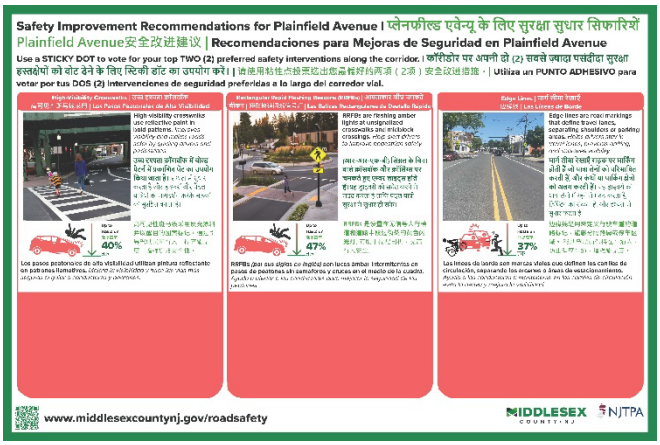











Safety Improvement Recommendations for Plainfield Avenue | प्लेनफील्ड एवेन्यू के लिए सुरक्षा सुधार सिफारिशें
Plainfield Avenue安全改进建议 | Recomendaciones para Mejoras de Seguridad en Plainfield Avenue
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor. | कॉरिडोर पर अपनी दो (2) सबसे ज्यादा पसंदीदा सुरक्षा हस्तक्षेपों को वोट देने के लिए स्टिकी डॉट का उपयोग करें। | 请使用粘性点投票选出您最喜好的两项（2项）安全改进措施。 | Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
High-Visibility Crosswalks | उच्च दृश्यता क्रॉसवॉक
Cruces Peatonales de Alta Visibilidad
High-visibility crosswalks use reflective paint in bold patterns. They help people walking see and be seen by drivers, and encourage safer crossing behavior.
उच्च दृश्यता क्रॉसवॉक में बोल्ड पैटर्न में प्रतिबिंब पेंट का उपयोग किया जाता है। वे पैदल चलने वालों को ड्राइवरों द्वारा देखने और देखे जाने में मदद करते हैं, और सुरक्षित क्रॉसिंग व्यवहार को प्रोत्साहित करते हैं।
Los pasos peatonales de alta visibilidad utilizan pintura reflectante con patrones llamativos. Ayudan a las personas que caminan a ser vistas por los conductores y promueven un comportamiento de cruce más seguro.
40%
Rectangular Rapid Flashing Beacons (RRFBs) | आयताकार तीव्र चमकने वाले संकेतक | Balizas Rectangulares de Destello Rápido
RRFBs are flashing amber lights at unsignalized crosswalks and midblock crossings. They can help to improve pedestrian safety.
RRFBs आंबर लाइट्स की फ्लैशिंग लाइट्स हैं जो बिना सिग्नल वाले क्रॉसवॉक पर और मिडब्लॉक क्रॉसिंग पर लगाई जाती हैं। ये पैदल यात्री सुरक्षा में सुधार में मदद कर सकते हैं।
RRFBs son luces ámbar intermitentes en pasos de peatones sin semáforos y cruces en el medio de la cuadra. Pueden ayudar a mejorar la seguridad de los peatones.
47%
Edge Lines | किनारे लेखाएं
Líneas de Borde
Edge lines are road markings that define travel lanes, separating shoulders or parking areas, which can help improve safety.
किनारे लेखाएं सड़क पर चिह्नित होती हैं जो लेन यात्रा को और/या पार्किंग क्षेत्रों से अलग करती हैं। ये सुरक्षा को बेहतर बनाने में मदद कर सकती हैं।
Las líneas de borde son marcas viales que definen los carriles de circulación, separando los arcenes o áreas de estacionamiento, lo que puede ayudar a mejorar la seguridad.
37%
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY, NJ
NJTPA


Safety Improvement Recommendations for Plainfield Avenue | प्लेनफील्ड एवेन्यू के लिए सुरक्षा सुधार सिफारिशें
Plainfield Avenue安全改进建议 | Recomendaciones para Mejoras de Seguridad en Plainfield Avenue
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor. | कॉरिडोर पर अपनी दो (2) सबसे ज्यादा पसंदीदा सुरक्षा हस्तक्षेपों को वोट देने के लिए स्टिकी डॉट का उपयोग करें। | 请使用粘性点投票选出您最喜好的两项（2项）安全改进措施。 | Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
Bicycle Lanes
साइकिल लेन | बी. एल. | Carriles para Bicicletas
Bicycle lanes are designated roadway sections with striping, signage, and markings for bike use. They provide dedicated space for cyclists.
साइकिल लेन सड़क का वह हिस्सा होता है जिसे पहिये, सिंबल और मैप्स के माध्यम से साइकिल चलाने के लिए निर्धारित किया जाता है। साइकिल चालकों के लिए समर्पित स्थान प्रदान करते हैं।
Los carriles para bicicletas son secciones designadas de la carretera con marcas, señalización y marcas para usos de bicicletas. Ayudan a reducir los conflictos entre peatones y vehículos.
53%
Median Crossings
मध्यांतर क्रॉसिंग | मीडियन क्रॉ. | Cruces Centrales Reforzados
Median crossings are raised islands that help pedestrians cross streets safely. They can help to improve pedestrian safety.
मध्यांतर क्रॉसिंग ऐसे मीडियन होते हैं जिन्हें पैदल चलने वाले सड़क पार करने के लिए सहारा लेते हैं। ये पैदल यात्री सुरक्षा में सुधार में मदद कर सकते हैं।
Las islas centrales son islas elevadas que ayudan a los peatones a cruzar las calles de manera segura. Pueden ayudar a mejorar la seguridad de los peatones.
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY, NJ
NJTPA

4.2.4 Ryders Lane Local Public Information Session

The Ryders Lane Public Information Session was conducted as an open house at the Cedar Village Clubhouse in East Brunswick. Materials for the open house were presented in English, Chinese, and Arabic. Approximately 35 people participated in the open house – they were primarily Cedar Village residents, mostly white-presenting with some other races and ethnicities present, and all middle-aged or seniors.





Figure 23 – Ryders Lane Public Information Session:

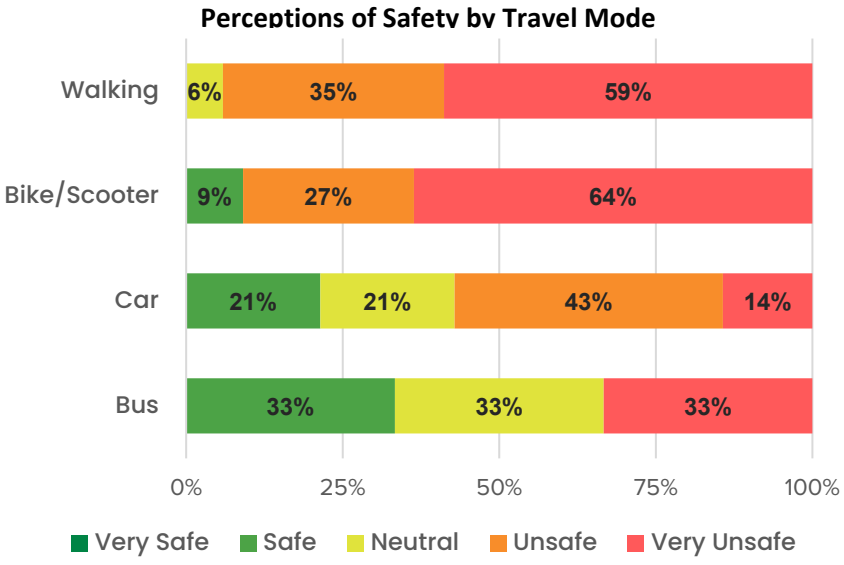


Figure 23. When asked how safe they feel using different modes of travel, participants generally felt unsafe walking, biking, or driving/riding in a car along the Ryders Lane corridor.

Figure 24 - Ryders Lane Public Information Session:

Corridor Improvement Priorities

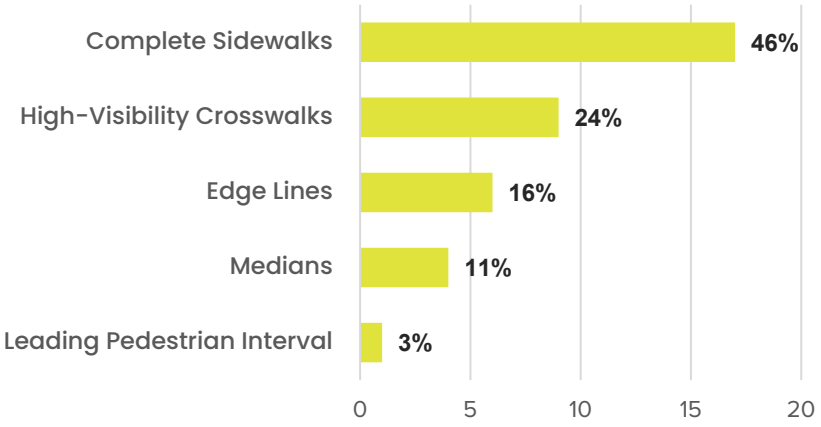
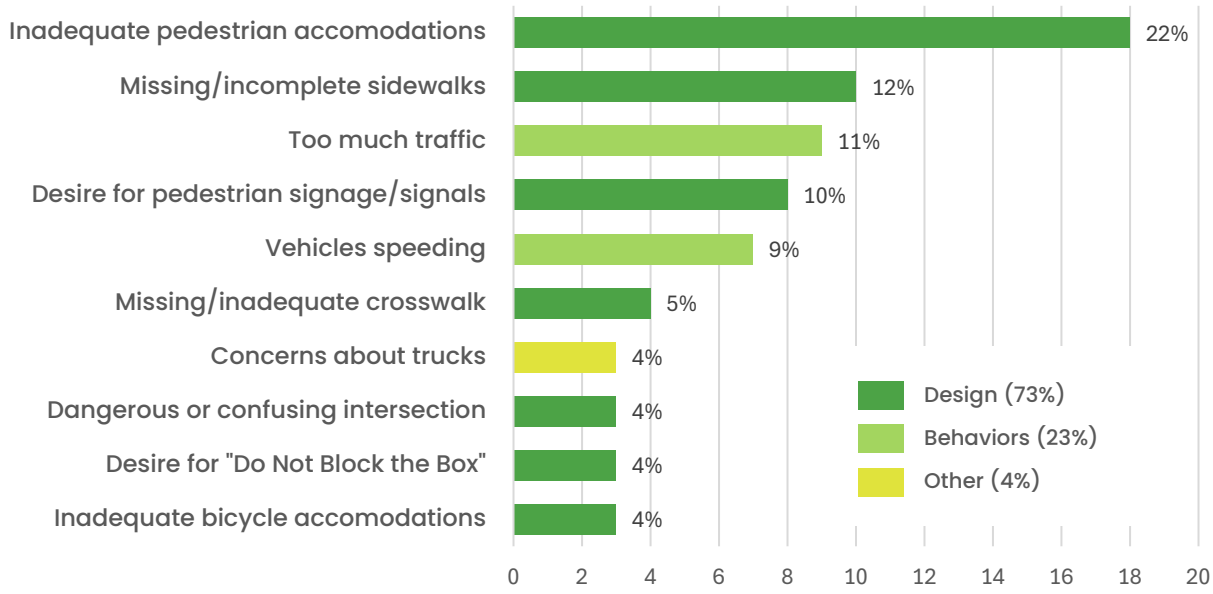


Figure 24. Participants were shown the top safety improvement recommendations for the Ryders Lane corridor and asked to select their top two priorities. *Complete Sidewalks* was overwhelmingly the top choice, followed by *High-Visibility Crosswalks*.

Figure 25 - Ryders Lane Public Information Session:

Corridor Safety Concerns



Participants were also asked to share their safety concerns about the corridor, which were coded into themes and generally fall into two categories – roadway design and road user behaviors **(Figure 25)**. The majority of responses (73 percent) related to design, with the top concerns being *inadequate pedestrian accomodations* and *missing/incomplete sidewalks*. Representing 23 percent of all responses, the top behavior concerns include *too much traffic* and *vehicles speeding*

** Note that to simplify the chart outputs, responses below 3 percent were excluded from the charts but still included in the calculation totals.*

The above chart codes and quantifies the comments related to a map of the corridor, which are presented in full on the next few pages. **(Figure 26 and Table 5)**

Figure 26 - Ryders Lane Public Information Session: Corridor Safety Concerns Map Activity

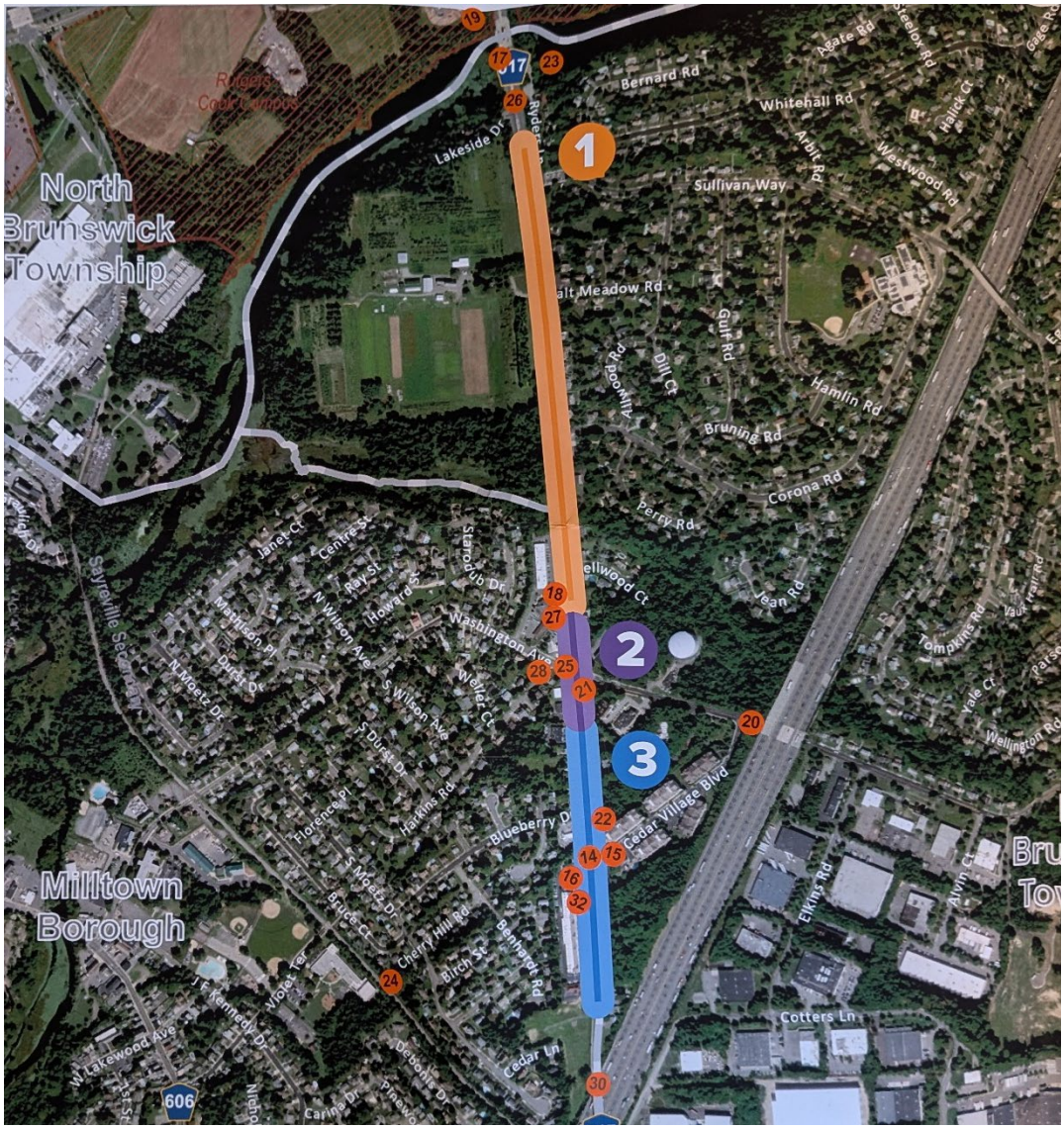


Table 5 - Ryders Lane Public Information Session: Map & General Comments

Location (sticky dot #)	Location Description	Community Feedback
14	Ryders Lane and Cedar Village Boulevard	RRFBs for corridor and in-pavement crosswalk lights
14	Ryders Lane and Cedar Village Boulevard	"No Turn on Red" for all Cedar Village approaches
14	Ryders Lane and Cedar Village Boulevard	Missing sidewalks along Ryders Lane, Alert drivers to seniors walking, Crash at the entrance of Cedar Village
14	Ryders Lane and Cedar Village Boulevard	Add a "Don't Block the Box" (between 7AM - 8:30AM). Have to wait a long time to cross.
15	Ryders Lane and Cedar Village Boulevard	Can't see cars coming over the hill - no turn on red would be good
12	Ryders Lane and Cedar Village Boulevard	Need "don't block the box"
15	Ryders Lane and Heritage Plaza	Heritage Plaza light is confusing and dangerous
32	Ryders Lane and Heritage Plaza	Speeding cars make it very dangerous
18	Ryders Lane and People's Plaza	Strip mall at Washington is hard to pull in and out of. Signals are not synced.
18	Ryders Lane and People's Plaza	Peoples Plaza entrance is too small (needs to be wider)
21	Ryders Lane northbound side to Tices Lane	There are no sidewalks - can't walk to the last house. There are no crosswalks at the intersection of Tices Lane and Washington.
21	Ryders Lane northbound side to Tices Lane	More frequent street sweeping after a storm because the debris puts cyclists on the road
21	Ryders Lane northbound side to Tices Lane	Missing sidewalk around the church - impassible Ryders Lane - Cedar to going south too
22	Ryders Lane north of Cedar Village	Lack of Sidewalks near Cedar Village Boulevard

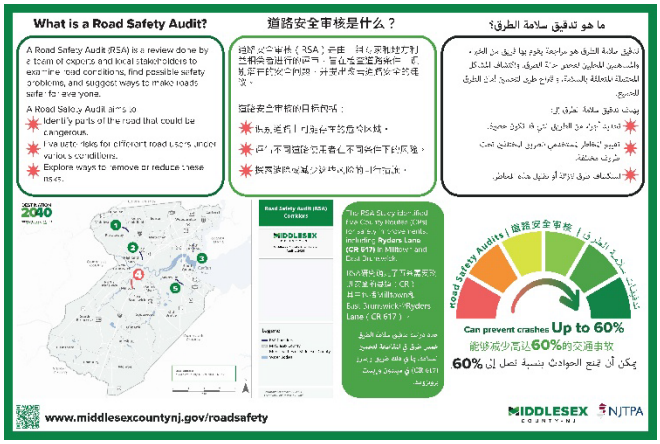
Location (sticky dot #)	Location Description	Community Feedback
24	Milltown	Huge shopping center going in - people will walk Ryders Lane to get there
27	Ryders Lane slip lane near People's Plaza	Unsafe for ped and bike to cross
28	Ryders Lane and Washington Avenue	Increase the traffic signal time for pedestrians to cross
X-1	Ryders Lane near Corona Road	Sadhu Vaswani Center - 1/2 mile from the village has no parking and people will park at Tices Lane and local roads. It's 50MPH and no sidewalks.
X-2	Ryders Lane and Sullivan Way	Ryders & Sullivan Way: Traffic light glare in the afternoon and the light is too dim
General-01		Ryder's Lane is a residential area and pedestrian safety is a concern
General-02		Railroad crossing condition at Ryders Lane and Cotter's Lane - unsafe intersection. Trucks coming in making the roads bad.
General-03		Development at the former Sears in New Brunswick will impact traffic on Ryders Lane
General-04		Impact of warehouse and storage on traffic
General-05		Speed cameras are needed
General-06		The duration of the crosswalk signal should be longer. ACME property - impact of tractor-trailers
General-07		They are going back to go onto Tices (?) go back to Turnpike
General-08		Need to reevaluate speed limit
General-09		Light at Tices Lane backs up all the way to Cedar Village entrance - Do Not Block the Bok should be added
General-11		Cannot impede car traffic until Route 18 is fixed! Need alternate route for bicycles to get through the corridor - and not on sidewalk or shoulder of Ryders! County should fund to

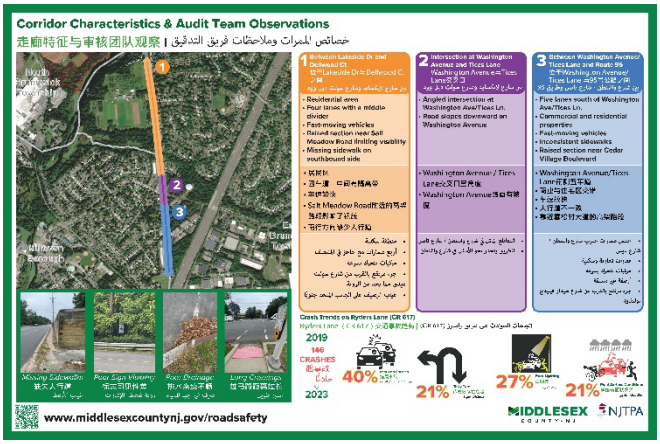
Location (sticky dot #)	Location Description	Community Feedback
		build it - very few places to cross the train tracks. LP only when button pressed.
General-12		Construction on Route 18 diverting trucks onto Ryders Lane and Route 1
General-13		Possibly add trees to reduce speed
General-14		Consider roundabouts
General-15		RFFB or ped beacons needed to alert cars to peds (not just at ped only crossings)
General-16		Need solutions to stop people from running red lights
General-17		Where there are businesses, there should be sidewalks
General-18		Missing sidewalks, Hard to cross the street
General-19		Ryders lane crossing needs flashing crosswalks
General-20		Bikes coming down from New Brunswick. The road is not wide enough to bike.
General-21		Speed limit changes too often, sun glare from 4-6PM
General-22		All signals need retroflective back plates
General-23		Lived here 19 years and never crossed Ryders as a pedestrian - it's scary
General-24		Lower the speed limit - children, churches, and schools along the corridor
General-25		There are no signs warning that the crosswalk/sidewalk ends
General-26		Going to Rehab down the road is missing. Already demolition is taking place at Bulberry Drive.
General-27		Crossing over from the Village to the other side of Ryder's Lane. Cars are not aware of people crossing at the intersection. Want RFFBs!

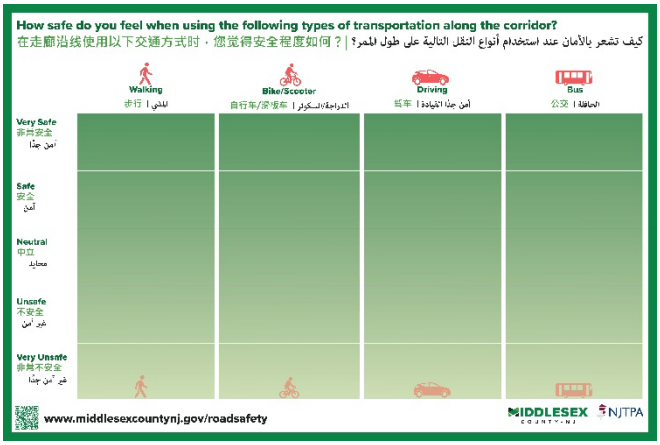
Location (sticky dot #)	Location Description	Community Feedback
General-28		Speeding/a lot of passing through
General-29		Walk the corridor a lot in "Section 1" - have to cross the street to continue on sidewalk
General-30		There are potholes that need to be fixed at the Ryders Lane overpass by the railroad track. Paving needed.
17	Ryders Lane and Route 1 (Off Corridor)	Merge from Route 1 to Ryders Lane is too short
19	Rutgers Gardens (Off Corridor)	Complete the sidewalk to Rutgers Gardens
20	Tices Lane under the Turnpike (Off Corridor)	Needs a sidewalk
30	Ryders Lane over Turnpike (Off Corridor)	The Turnpike Authority does not remove snow
General-10	(Off corridor)	Requesting a future RSA at Ryders Lane and Dunhams Corner Road. Cars go fast and overrun the turn over the sidewalk and into yards
General-31	(Off Corridor)	There is poor lighting under the Turnpike - need more/bright light.
General-32	(Off Corridor)	Cook Market hard to reach by bike/ped
General-33	(Off Corridor)	Lack of sidewalk continuity from RU campus to RU Gardens
General-34	(Off Corridor)	RU Wellness crossing from College Farm Road - the median was filled in to prevent cars from turning, but also preventing bike/ped
General-35	(Off Corridor)	Before Route 1, do not let people make a left turn.
General-36	(Off Corridor)	The M18 used to stop on Milltown Road

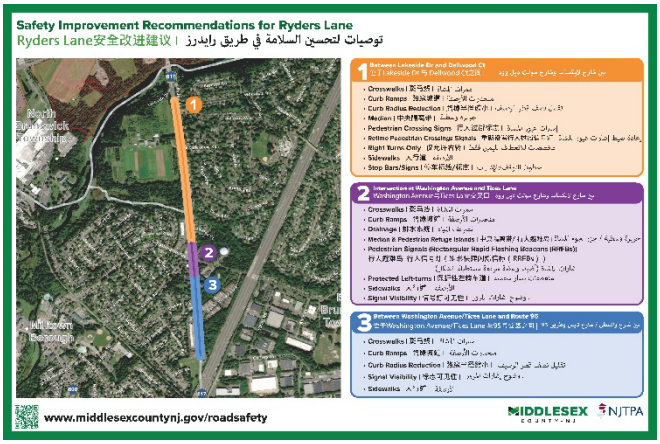
4.2.4.1 Ryders Lane Public Information Session Boards

Figure 27 – Ryders Lane Public Information Session Boards

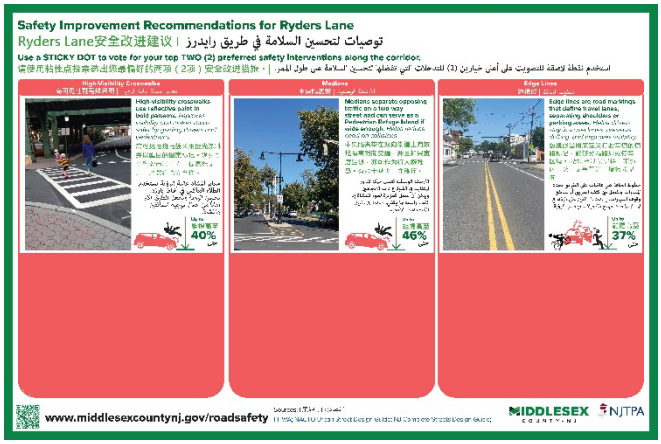











Safety Improvement Recommendations for Ryders Lane
Ryders Lane安全改进建议 | توصيات لتحسين السلامة في طريق رايدرز
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
High-Visibility Crosswalks
High visibility crosswalks use reflective paint in bold patterns, marked
Medians
Medians separate opposing traffic on a two-way
Edge Lines
Edge lines are road markings that define travel lanes,
Up to
40%
Up to
46%
Up to
37%
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY·NJ
NJTPA


Safety Improvement Recommendations for Ryders Lane
Ryders Lane安全改进建议 | توصيات لتحسين السلامة في طريق رايدرز
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
Leading Pedestrian Intervals (LPI) give pedestrians a head start before vehicles at traffic lights.
Sidewalks
Sidewalks are designated spaces for walking or wheelchair use,
Up to
13%
Up to
89%
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY·NJ
NJTPA

4.2.5 Stelton Road Local Public Information Session

The Stelton Road Public Information Session was conducted as an open house at Eisenhower Elementary School in Piscataway. Materials for the open house were presented in English, Hindi, and Spanish. Approximately 15 people participated in the open house – they were mostly white-presenting and all middle-aged or seniors.





Figure 28 - Stelton Road Public Information Session:

Perception of Safety by Travel Mode

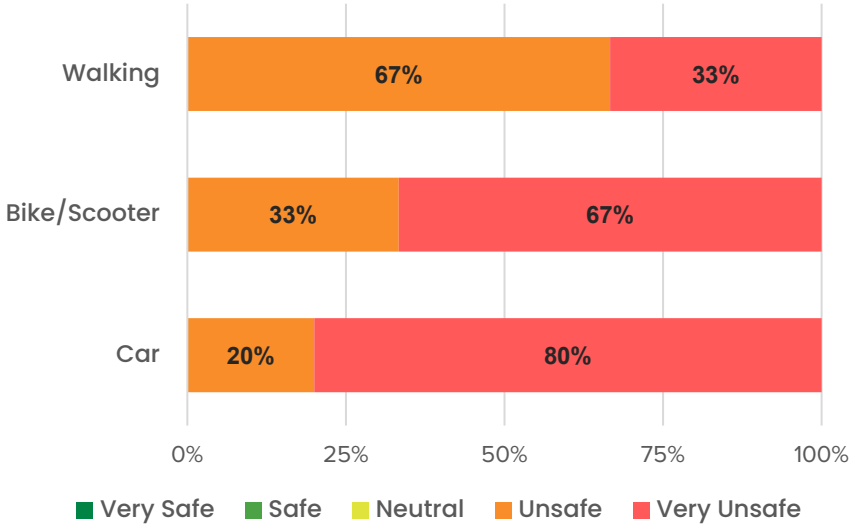


Figure 28. When asked how safe they feel using different modes of travel, participants generally felt unsafe walking, biking, or driving/riding in a car along the Stelton Road corridor.

Figure 29 - Stelton Road Public Information Session:

Corridor Improvement Priorities

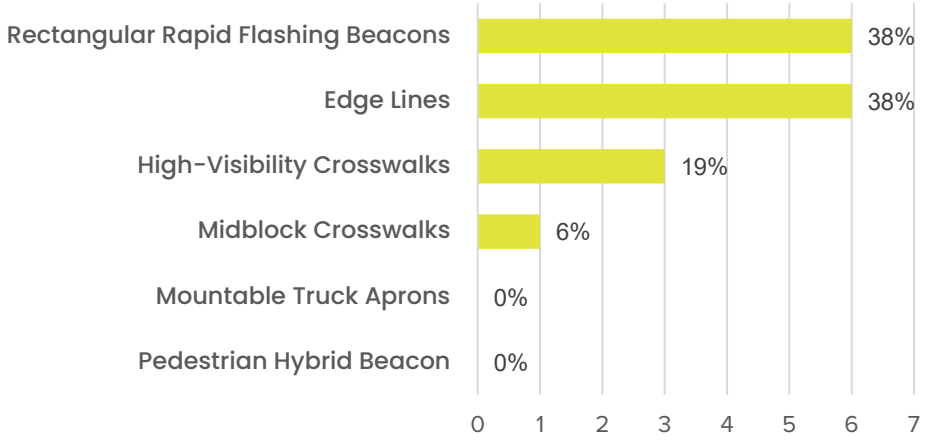
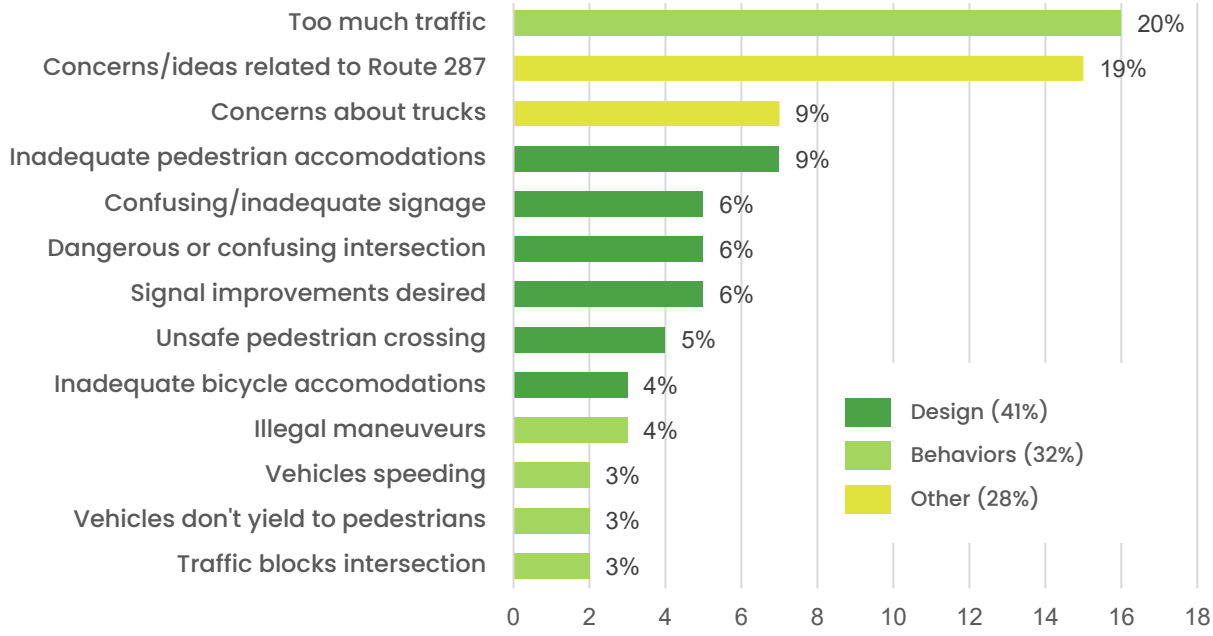


Figure 29. Participants were shown the top safety improvement recommendations for the Stelton Road corridor and asked to select their top two priorities. *Rectangular Rapid Flashing Beacons (RFFBs)* and *Edge Lines* were the top choices.

Figure 30- Stelton Road Public Information Session:

Corridor Safety Concerns



Participants were also asked to share their safety concerns about the Stelton Road corridor, which were coded into themes and generally fall into two categories – roadway design and road user behaviors **(Figure 30)**. Most responses (41 percent) related to design, with the top concerns being *inadequate pedestrian accomodations* and *confusing/inadequate signage*. Representing 32 percent of all responses, the top behavior concern was *too much traffic*. Specific to the Stelton Road corridor, some prominent "other" responses included *concerns and ideas related to Route 287* and *concerns related to trucks.*

** Note that to simplify the chart outputs, responses below 3 percent were excluded from the charts but still included in the calculation totals.*

The above chart codes and quantifies the comments related to a map of the corridor, which are presented in full on the next few pages. **(Figure 31 and Table 6)**

Figure 31 - Stelton Road Public Information Session: Corridor Safety Concerns Map Activity

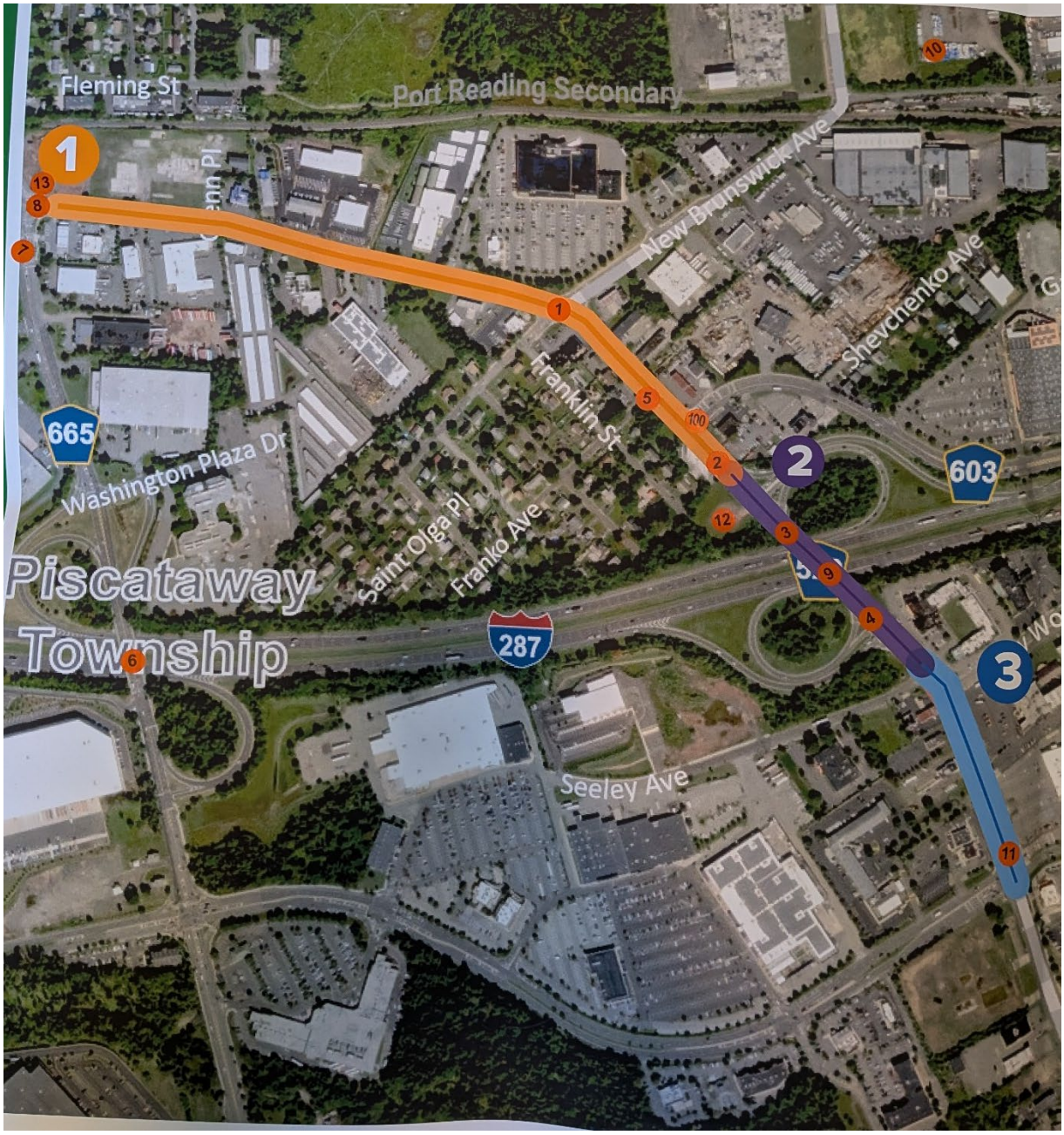


Table 6 - Stelton Road Public Information Session: Map & General Comments

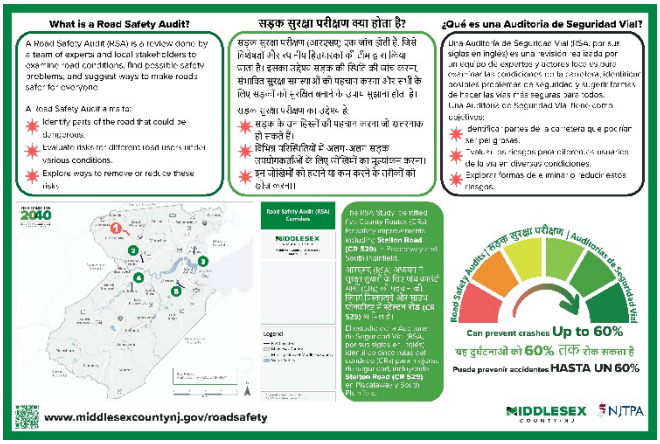
Location (sticky dot #)	Location Description	Community Feedback
1	Stelton Road and New Brunswick Avenue	Walk across to Food Bazaar with kids from neighborhood
1	Stelton Road and New Brunswick Avenue	Flashing beacons are not working at New Brunswick Avenue. Walk to grocery store. Drivers not stopping fully at red.
1	Stelton Road and New Brunswick Avenue	Traffic light needs to be changed. 2 cars coming out - one car should be delayed. There are a lot of accidents.
1	Stelton Road and New Brunswick Avenue	Navigating the 2-lane left turn
1	Stelton Road and New Brunswick Avenue	Backed up during rush hour
2	Stelton Road between Hamilton Blvd and Route 287 Interchange	Backed up during rush hour
2	Stelton Road between Hamilton Blvd and the Route 287 Interchange	Improve the sign visibility over the intersection
2	Stelton Road between Hamilton Blvd and Route 287 Interchange	There is a sign (Turnpike), but it is too small and leads to a mess. It's there on the map, but it is not clear, and trucks block the road waiting to turn.
2	Stelton Road between Hamilton Blvd and Route 287 Interchange	Curb behavior for local driving. Make this a turn - tractor trailers are coming onto this road.
2	Stelton Road between Hamilton Blvd and Route 287 Interchange	Maintenance of the sidewalks, particularly in the summer
2	Stelton Road between Hamilton Blvd and Route 287 Interchange	Crosswalks at the Route 287 ramp is pretty bad
2	Stelton Road between Hamilton Blvd and Route 287 Interchange	Signal timing is bad - you get stuck and slow
3	Stelton Road and Route 287 Interchange (north of 287)	Backed up during rush hour
3	Stelton Road and Route 287 Interchange (north of 287)	Limited pedestrian accommodations

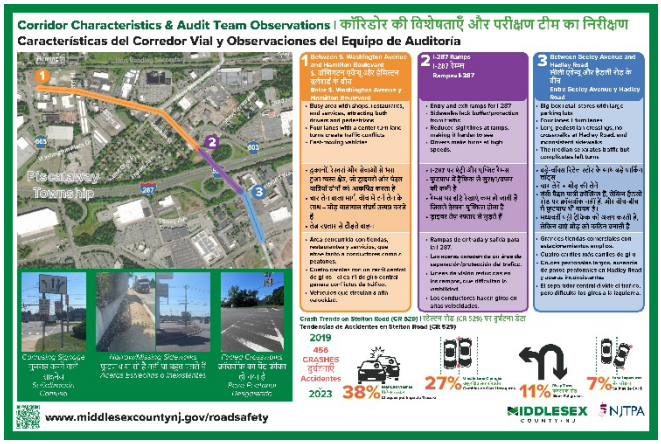
Location (sticky dot #)	Location Description	Community Feedback
3	Stelton Road and Route 287 Interchange (north of 287)	Signal timing is bad - you get stuck and it's slow
4	Stelton Road and Route 287 Interchange (south of 287)	Backed up during rush hour
4	Stelton Road and Route 287 Interchange (south of 287)	Limited pedestrian accommodations
4	Stelton Road and Route 287 Interchange (south of 287)	They come from the exit pretty fast
4	Stelton Road and Route 287 Interchange (south of 287)	Add Rt 287 shield paint on roads
4	Stelton Road and Route 287 Interchange (south of 287)	Signal timing is bad - you get stuck and it's slow
5	Stelton Road at Franko Avenue	Weight restrictions on local roads
5	Stelton Road at Franko Avenue	Add "Do Not Block the Box"
6	South Washington Avenue and Route 287 Interchange	Limited access at this interchange causes traffic on Stelton Road
7	South Washington Avenue and Turner Place	Signal needs better coordination to flash a left turn from Stelton
8	Stelton Road and South Washington Avenue	Traffic, people are speeding, bike lanes are non-existent; traffic congestion during peak hours; Wawa added a lot more traffic
9	Route 287 On-Ramp from Stelton Road	Trucks are coming down the ramp into a lot of cars
10	Tyler Place	A lot of warehouses coming up - a lot more traffic coming out of here. This will further increase traffic congestion.
11	Stelton Road and Hadley Road	Lighting is dark, and there is a lack of bike/ped facilities at Centennial
12	Former Shell Station	Could be opened as a new ramp to Route 287
13	Stelton Road and Washington Road	Add a yield sign for the right-hand turn
100	Stelton Road and Hamilton Boulevard	Paint highway shield markings in the two left-turn lanes; Speeding is the biggest issue. No one follows rules.
100	Stelton Road and Hamilton Boulevard	Mountable tractor apron. People are blowing through crosswalks.
General-01		Drivers say bikes are unsafe
General-02		People are against sidewalks because the cost is too high

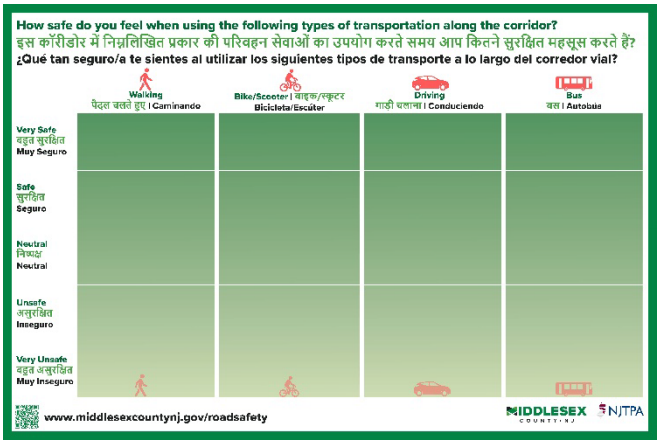
Location (sticky dot #)	Location Description	Community Feedback
General-03		A 19-year-old died on the road. Wants to stop the memorials.
General-04		Enforcement is needed. 4:30AM - cement truck causing a lot of issues to residents.
General-05		If you could get on/off Route 287 at all of the ramps at Exit 4 & 6, it would help alleviate traffic on Stelton Road
General-06		See CAIT research report about orphaned interchanges
General-07		Request for an RSA Along Route 605 in South Plainfield
General-08		Request for an RSA Along Route 531 in South Plainfield

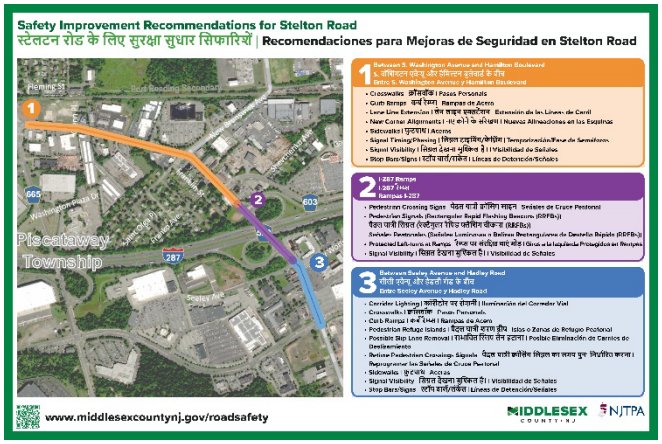
4.2.5.1 Stelton Road Public Information Session Boards

Figure 32 – Stelton Road Public Information Session Boards

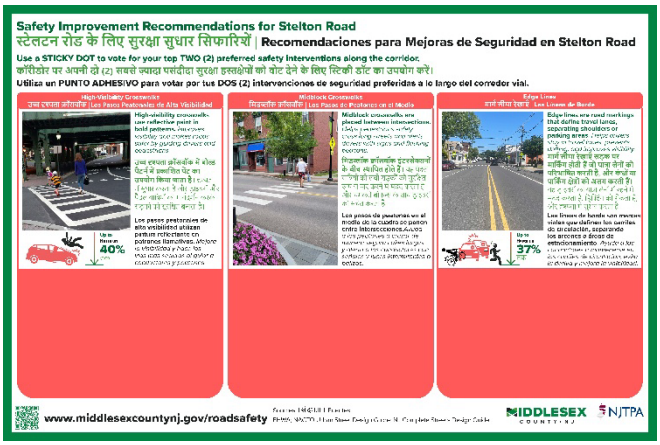











Safety Improvement Recommendations for Stelton Road
स्टेलटन रोड के लिए सुरक्षा सुधार सिफारिशें | Recomendaciones para Mejoras de Seguridad en Stelton Road
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
कॉरीडोर पर अपनी दो (2) सबसे ज्यादा पसंदीदा सुरक्षा हस्तक्षेपों को वोट देने के लिए स्टिकी डॉट का उपयोग करें।
Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
High-Visibility Crosswalks
उच्च दृश्यता क्रॉसवॉक | Las Pasos Peatonales de Alta Visibilidad
Up to
40%
Midblock Crosswalks
मिडब्लॉक क्रॉसिंग | Las Pasos de Peatones en el Medio
Up to
37%
Edge Lines
बार्डर लाइन | Las Líneas de Borde
Up to
37%
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY, NJ
NJTPA


Safety Improvement Recommendations for Stelton Road
स्टेलटन रोड के लिए सुरक्षा सुधार सिफारिशें | Recomendaciones para Mejoras de Seguridad en Stelton Road
Use a STICKY DOT to vote for your top TWO (2) preferred safety interventions along the corridor.
कॉरीडोर पर अपनी दो (2) सबसे ज्यादा पसंदीदा सुरक्षा हस्तक्षेपों को वोट देने के लिए स्टिकी डॉट का उपयोग करें।
Utiliza un PUNTO ADHESIVO para votar por tus DOS (2) intervenciones de seguridad preferidas a lo largo del corredor vial.
Pedestrian Hybrid Beacon (PHB)
पैदल यात्रियों के लिए हाइब्रिड बीकन | Señal Peatonal Híbrida
Up to
55%
Rectangular Rapid Flashing Beacons (RRFBs)
आयताकार रैपिड फ्लैशिंग बीकन | Las Balizas Rectangulares de Destello Rápido
Up to
47%
Mountable Truck Aprons
माउंटेबल ट्रक एप्रन | Los Bordillos Montables para Camiones
www.middlesexcountynj.gov/roadsafety
MIDDLESEX COUNTY, NJ
NJTPA